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An Address ON BIOLOGY AND MEDICINE.*

BY

J. S. HALDANE, M.D., F.R.S.,

OXFORD.

THE aim of Medicine is the maintenance or restoration of what we call health. It is thus our conception of what health means that is at the root of our conception of Medicine. We recognize that health is a normal condition which tends to be maintained apart from any conscious effort to maintain it. Health is just the normal unconscious life of an individual, and knowledge of what, in detail, this normal life and departures from it consist in is thus essential when by conscious effort, as in practical Medicine, we seek to safeguard or restore health.

The Distinctive Features of Life.

The phenomena observed in connexion with life are so different from those observed in what we call inorganic Nature that we give the name Biology to the science or group of sciences dealing with unconscious life, and we distinguish Biology from the Physical Sciences, which deal with the inorganic aspect of Nature. Let us consider what this difference consists in.

In a living organism we find structure, arrangement of parts, and movements of them, just as in phenomena which we interpret as inorganic. But in the case of life the structure, including its mass and composition, is actively maintained or developed in the particular manner which is "normal," and the activity of the structure is of such a nature that the normal structure is maintained or developed. Normal structure and normal activity are thus inseparable: the structure is alive, and alive in a manner which is normal or specific. If, moreover, we consider the mutual reactions between an organism and its environment we find that these reactions are so co-ordinated or directed as to maintain or develop the normal structure of the organism, and this co-ordination is what we call organic control. In inorganic phenomena, on the other hand, we seem to find no co-ordination of activity with structure. Inorganic structures hold together, it is true; but their activities are not regarded as being so directed that the structure is maintained. This is what we mean when we say that inorganic structures and activities have no functional significance, while organic activities have. The activity displayed for the moment in an inorganic substance or structure seems to us to be a mere matter of chance, and for this reason can be described as chaotic, and will be so referred to in the sequel.

In the phenomena of life, therefore, there is an element which we do not observe in connexion with inorganic phenomena. This is specific co-ordination in the relation between structure and activity. Details of both structure and activity are the manifestation of something which maintains and develops itself in a specific manner as a whole. This something is what we denominate and easily recognize as life; and the science of Biology is the science of the manifestations of life.

Within the body of an organism we can also recognize phenomena which do not, in much or most of their detail, seem to be different from inorganic phenomena. Thus we find within the living body what seem to be ordinary liquids, solids, or gases, behaving in every way like inorganic liquids, solids, or gases, except that a greater or less amount of organic co-ordination or control is evident in their mass, volume, and composition, and in the influence which they exercise on the organism. In virtue of the organic control we interpret their presence as "normal" or within "normal" limits. In the environment inorganic behaviour is present to what at first sight seems a predominant extent, and the physical sciences deliberately disregard the organic control shown in the mutual reactions between organism and environment. By biologists the action and reaction are referred to as stimulus and response, and in the relation between stimulus and response—for instance, in responses to stimuli by light—characteristic biological co-ordination or control is evident, while definite physical or chemical connexion between stimulus and response cannot be traced. This control is, moreover, the distinguishing feature for Biology. Hence organic co-ordination, though no account is taken of it by the physical sciences, does not cease when we pass outside the bodies of living organisms, but extends indefinitely into their environment, since the characteristic mutual relations between organism and environment are those of stimulus and response. The relationship, for instance, between Sirius and a photographic plate which receives its spectrum is different from that between Sirius and an organism which responds to its presence. To take another instance, the relationship between stimulus and response in so-called "reflex action" is different from that between physical cause and effect, as modern investigations of reflex action are progressively showing. In other words, the conception of life applies over the environment no less than over the bodies of organisms. Between life and its environment there is no line of demarcation; and even when we attempt to draw a definite line of demarcation between living structure and its environment we never succeed. Living structure and the "plasma" which we endeavour to picture as surrounding it melt into one another.

Thus the distinctive science of Biology is not a science which applies merely to the living bodies of organisms. It represents the interpretation of one aspect of what we observe, not merely in the living bodies of organisms, but also in what surrounds them. Biological interpretation is, in fact, a method of interpreting part of our perceived experience, just as is physical interpretation. The difference between biological interpretation and physical interpretation is a logical difference. If we ask what necessity there is for extending biological interpretation over the whole of our perceived experience, the answer is that we can distinguish the same co-ordination between specific structure and activity in the relations between organism and environment as in the relations between the parts of an organism, so that organic wholeness is just as manifest in the relations between organism and environment as in the relations between the parts of an organism. From its very nature ordinary physical interpretation cannot express this wholeness, since structure and activity are regarded as independent of one another.

The Hippocratic Conception of Life as a Struggle in Nature against Chaos.

It is evident that we can see far more in both organism and environment than what we can describe in terms of life. We have to content ourselves with physical interpretation of these phenomena. Life, with its essential co-ordination, therefore appears to us as a constant, and under normal conditions successful, struggle with the essential chaos of what we interpret as a physical and chemical world, both within the body and in the environment. It is in this struggle that life manifests itself; and practical Medicine is simply the help we can give by conscious interference in the natural struggle for normal life or health. Were it not for the actual existence of this struggle therapeutic Medicine or Surgery would be helpless in face of the endless delicacy of living structure and its normal activities. We cannot repair the living body as we repair a machine: we can only assist the natural process of repair. Similarly, in preventive Medicine we can do no more than see that the struggle is not too hard for Nature to succeed in it.

The struggle of life is a natural phenomenon. We do not interpret it as conscious behaviour, but as a blind or unconscious manifestation of Nature. Another conception is needed for the interpretation of conscious behaviour. The fact that in studying life it is simply Nature that we are studying, and that it is the nature of life to maintain, restore, and reproduce itself, was first pointed out clearly by Hippocrates, who at the same time objected to the intrusion into medical theory of philosophical atomism, the early Greek form of the modern physico-chemical interpretation which reached its full development during

* Delivered to the Manchester Medical Society, April, 1927.

last century. The word Physiology, derived from φύσις, nature, and taking us back to the Hippocratic conception, is a reminder that in studying life we are simply studying a natural phenomenon.

Physiology, Anatomy, and Biochemistry.

In modern times the word Biology has been substituted for the word Physiology, to indicate the whole science of life, while Physiology is regarded as dealing solely with the activities of life, and is distinguished from Anatomy or Morphology, which deals with the structure of organisms, and Biochemistry, which deals with their chemistry. In so far as we make sharp distinctions of this kind we are losing sight of the essential unity of biological phenomena. Normal structure and chemical composition are only the expression of normal activity; and apart from the structure and composition which are the expression of normal activity, this activity is without biological significance. Whatever methods of investigation we may mainly be employing, it is active life itself that we are studying, since we cannot separate living structure and composition from living activity. It is impossible for investigators to be experts in every method of investigation, or be familiar with all forms of life. Hence it is necessary to divide biological investigation into different branches. But if, in doing so, we forget that every branch of biology is concerned with the essential wholeness of the phenomena of life for each individual organism, the result can only be confusion, since we lose ourselves in endless unconnected matters of detail. Functional significance is what biology is always searching for, and its discovery is for a biologist the understanding or power of predicting phenomena. Explanation in biology is simply the demonstration that a detail of structure or activity expresses the organic wholeness of life.

The Vitalistic and Mechanistic Theories of Life.

The view just presented is essentially the Hippocratic view of biology and Medicine, but is not the view which is at present commonly regarded as orthodox in the teaching of physiology and anatomy, and which is to a considerable extent reflected in the teaching of Medicine. If we go back to the commonly accepted biological conceptions of the early part of last century we find that instead of regarding the distinctive feature of life as corresponding to a conception applying to the whole of the relations between organism and environment, biologists generally believed that the behaviour of the whole environment and much of what is observed within the living body can be interpreted as nothing but physico-chemical behaviour, and that only within the intimate structure of the living body does such interference occur as to impart to the behaviour of living organisms its distinctive character. The interfering influence was called the "vital principle" or "vital force," and the corresponding general biological conception was known as vitalism.

The middle of last century saw a general uprising against vitalism, and a determined attempt to substitute for vitalism the conception that biology is simply one part, though a difficult one, of ordinary physical science. There can be no doubt that this attempt has not brought us, in appearance, any nearer to a physico-chemical conception of life. The distinctive features, already referred to, which separate biological from physical and chemical phenomena stand out now far more clearly and in far greater detail than they did at the middle of last century. This is the result of detailed investigation by ever-improving physical and chemical methods. When the results obtained by these methods are put together, what they reveal is not mere physical and chemical mechanism, but the distinctive and specific co-ordination of structure and activity which is characteristic of life. With every experimental advance this co-ordination appears in greater and greater detail, and the assumed mechanism of life recedes further and further into the background.

To see this we have only to compare our present knowledge of nutrition, secretion, circulation, respiration, nervous activity, cell structure, or hereditary transmission with the knowledge of the middle of last century. There is, it is true, a popular and singularly confused idea that because the increased knowledge has been obtained with the help of physical and chemical methods the interpretation of the results must also be physical and chemical interpretation. The actual interpretation is, however, obtained, not from isolated observations, but from putting together a mass of physical and chemical data, and noting the co-ordination of structure, chemical composition, and activity. As isolated physical and chemical facts these data are unconnected and unintelligible; but they become logically coherent, and therefore intelligible or predictable, when they are interpreted as phenomena of life; in other words, as functionally significant—as manifestations of the struggle for normal life.

Vitalism gave apparent recognition to the characteristic co-ordination in the phenomena of life; but though vitalism is not dead there is no general tendency among biologists to return to it. In present-day theoretical Medicine this position is to a large extent reflected. In the actual practice of Medicine, however, the characteristic co-ordination between structure and activity—the so-called *vis medicatrix naturae*—becomes such a prominent feature that in the absence of a more adequate conception many, if not most, medical men are, I think, still at heart vitalists.

Why is it that biologists cannot return to vitalism? Instead of regarding the conception of life as a conception which applies to the environment as well as to the intimate structure of living organisms, the vitalists applied it only to the intimate structure, and accepted the idea that outside the intimate structure there is nothing but the essential chaos which, as already pointed out, appears to exist in the environment as interpreted on Newtonian lines by the physical sciences. Only inside the living structure is, according to vitalism, this chaos guided into biological order by the influence of the vital principle. Now it is easy to prove by actual experiment that all which the vitalists attributed to the interference of the vital principle within the body is dependent on conditions in the environment, or consists in responses to conditions in the environment. To deny this would not merely be to deny evident facts, but would tend to fetter or discourage experimental research. Vitalism is not the Hippocratic conception of life which I tried to place before you, and which embraces the environment in the conception of life. Whether from the standpoint of this latter conception or from that of experimental biology, vitalism is totally unsatisfactory; and in so far as the mechanistic movement among biologists was a throwing off of the shackles of vitalism I think it was a great step forward.

I have sometimes been called a neo-vitalist. Let me assure you that I am neither a neo-vitalist nor a paleo-vitalist. On the other hand, I am quite unable to accept the conception that biology can be regarded as a branch of ordinary physics and chemistry. My reason is that, as already pointed out, we find, as a matter of fact, that in the phenomena of life there is inseparable co-ordination of structure and activity, in such a way that the specific structure of each centre of life is maintained through its activity, and the activity is of such a nature as to maintain the structure. This fundamental fact distinguishes biology from the physical sciences, or at any rate from the physical sciences as interpreted on ordinary Newtonian lines, since structure and activity in the physically interpreted world are not regarded as connected with one another to form a specific and persistent whole. To make biological phenomena intelligible or predictable the distinctive conception of life is essential. If a label were required for this teaching one might call it neo-Hippocratism.

The Logical Separation of Biology from the Physical Sciences.

Biology is distinct from the physical sciences. It is an independent science with a fundamental conception of its own. The distinction is not one which, as the vitalists thought, we can localize in space within the organism. Nor can we, by tracing the course of evolution backwards, localize it in time. The theory of organic evolution requires the assumption of specific hereditary transmission, and hereditary transmission itself assumes the distinctive character of life. The idea that by a process of natural

selection life could be evolved out of, or "emerge" out of, physico-chemical mechanism is not a coherent idea. The distinction between biological and physical phenomena is a logical distinction, or a distinction in the general conception which we must employ in order to represent the distinctive character of the phenomena observed and be able to predict them. When we are considering what we call inorganic phenomena we deliberately neglect the biological aspect of our actual observations, setting this aspect aside as belonging only to what Locke quite inadequately designated as the "secondary qualities" of objects. But when we are considering living organisms themselves, or their environment in so far as it influences them, the biological aspect becomes of overwhelming importance, so that a biologist cannot neglect it without rendering his observations unintelligible as well as disconnected. The existence of biology is an assertion of the fundamental fact that Nature is no mere physical chaos.

The physico-chemical or mechanistic conception of life was doomed from its outset to failure. It attributed the characteristic behaviour of living organisms in regulating the influence on them of environment to peculiarities of their physico-chemical structure; but in so doing it overlooked the fact that the specific structure of a living organism can itself be shown by experiment to be dependent on the influence of its environment. The mechanistic theory was thus in reality constantly reasoning in a vicious circle. It separated anatomy or morphology, as dealing with structure, from physiology as dealing with activity, whereas any such fundamental separation is impossible, since living structure is merely the expression of living activity. Structure and activity are inseparable aspects of a co-ordinated whole which is specific or normal for each species of organism, and indeed for each individual organism.

The mechanistic theory, as represented in the *De Homine* of Descartes, or in writings of the mechanistic biologists of the latter half of the last century or of to-day, does not hang together, any more than the vitalistic theory. We have all been brought up on the mechanistic theory, as represented in the writings of such men as Huxley, and embodied in present-day popular literature. It is thus an intellectual wrench to abandon this theory; but, though it may survive as a widespread form of belief for many years, abandon it we must. When we abandon it, without returning to vitalism, we can form a satisfactory conception of biology, as being a branch of science which is progressively revealing to us, not the mechanism of life, but a more and more detailed knowledge of the structures and activities which express life as such—as a whole which in the case of each organism exists as specifically or normally co-ordinated structure and activity.

Biology and the New Physics.

This conception of life is, of course, in itself a direct challenge to the ordinary Newtonian interpretation of the visible and tangible world, as represented in traditional physics and chemistry, and amounting to the treatment of Nature as essentially chaotic in the sense already defined. A few years ago that challenge would, apart from the challenge of the eighteenth-century philosophers and their successors, and of ancient Greek writers, have stood alone. But physicists and mathematicians have now themselves joined in the challenge, and have come to regard the traditional Newtonian physical conceptions as no better than preliminary or provisional modes of interpretation. So far as I am able to judge, the new physical conceptions of the last few years are so closely allied in certain fundamental respects to the biological conception which I have tried to explain that the latter conception is no longer a direct challenge to them, but furnishes hints for their further development, while conversely the new physical conceptions furnish hints to biologists. In other words, physics and biology are coming together, not on the lines of reducing biology to the status of a branch of the old physics and chemistry, but on the lines of so fundamentally modifying the conceptions of physics and chemistry that a meeting-point between biology and the physical sciences can be anticipated. Even if that meeting-point were reached, however, individual life would still appear as a struggle against chaos, since the warring units of life in a universe of life would still be chaotic.

Importance of Human Biology.

It is in the lives of the most highly organized organisms, when they are physiologically intact, that we can discern most sharply and easily the wholeness of life. It is therefore with their study that biology naturally begins. In so far as human life is accessible to observation, human biology tells us more, and tells it more clearly, than does the biology of lower organisms. The human subject of observation can himself tell us what animals cannot tell. It is also easy, with a human subject, to control exactly the conditions of an experiment. To observations made in the course of medical and surgical work, and under varying conditions of human activity and environment, we owe a very great part of biological advance. With every year, moreover, the human subject becomes more and more accessible to experimental investigation. It is not merely, therefore, because human physiology and anatomy are indispensable in practical medicine that they are of special importance, but because they afford so much accurate scientific insight into the phenomena of life. With the mechanistic physiology, which aimed at referring the characteristic features of physiological activity to innate peculiarities in the structures of different organs and tissues, both human experimental physiology and the physiology of intact organisms of every kind tended to be thrust into the background.

I can speak from personal experience on this point. My own experimental work as a physiologist has been mainly in human physiology; but I had for long to accustom myself to its being regarded as of little real scientific importance, since it was done on an intact and very complex organism. As a matter of fact the work I was engaged on was of great scientific significance, and, as in the case of much other physiological work, it was only on normal and intact human subjects that it could be carried out.

The scientific, as well as practical, significance of human experimental physiology is now far more widely recognized than it was a few years ago; but I think that a good deal remains to be done in the way of getting rid of both practical and theoretical teaching based on the mechanistic idea of life. It is not merely because of its irrelevancy to practical medicine, but because of its scientific defects, that this teaching seems to me very unsatisfactory. From the study of an isolated organ or tissue we can certainly learn much; but we learn only a little about how the organ or tissue behaves under normally occurring conditions. This is because we have violently altered beyond normal limits the conditions of environment which Nature maintains in the intact organism, and have thus made the responses of the organ or tissue abnormal, so that we do not discover how it behaves in the intact organism. Even an anaesthetized, though otherwise intact, animal is not in a normal state. We are thus apt to miss knowledge which we should gain at once from experiments on an intact or nearly intact organism. The search for imaginary "mechanisms" diverts us from the search for what can be found.

From the behaviour of an isolated perfused kidney or lung we gain little or no knowledge of the amazing delicacy with which the kidneys and lungs in an intact man or animal regulate the composition of the internal body fluids. Attention is, in fact, directed away from this regulation, whereas when the living body is intact experiments which are easily carried out on man reveal the regulation in the most striking manner. Regulation or co-ordination means nothing fundamental for the mechanistic physiology, and thus receives very little attention, or is twisted round so as to be made to appear as if it were nothing but a sort of mechanical balance, dependent on innate peculiarities of structure or composition. It is common, for instance, to speak of the regulation of reaction in the living body as if this were an equilibrium of acid and base, maintained approximately steady by the presence in the body of buffering substances, instead of by

physiological activity. Language of this sort is imagined to be scientific: it seems to me only evidence of lack of scientific insight. A similar remark applies to such expressions as the "mechanism" of heredity, or of secretion or respiration. In actual fact the structure is bound up with the regulation, so that co-ordinated or regulated activity is a primary feature in life. In other words, the functional significance of biological structure and activity is of its very essence. The application of the word "mechanism" to life amounts to the assertion that this is not true.

Not only practical Medicine, but also Biology itself as a science, is dealing with the essentially and specifically co-ordinated structure and activity which we call life. In laying no primary stress on the co-ordination or regulation the mechanistic physiology has not only tended to divorce itself from practical Medicine in the manner we are all painfully aware of, but is radically unsound in a scientific sense. It is life as an essentially co-ordinated whole that physiology, no less than practical Medicine, has to keep in view. Practical teaching which consists mainly in experiments on isolated fragments of frogs or other animals, and in isolated chemical experiments on substances occurring in the body, is no satisfactory instruction in Physiology as a science.

The Hippocratic Foundation of Medicine.

I have already remarked that life appears to us as a constant struggle for organic order in an otherwise chaotic world, and that the function of Medicine is to give assistance in that struggle where assistance is called for. In order to give this assistance effectively we must know in detail how the struggle is normally conducted successfully during health. We must thus know normal anatomy and physiology, and this implies also a knowledge of physics and chemistry, without which we should be ignorant of what life is struggling against, or of the very existence of a struggle. Normal anatomy and physiology would include all the knowledge that can be obtained of the local conditions on which normal local structure depends, and of how attacks by foreign organisms are normally repelled. From such knowledge we can already see to some extent where failure in the struggle for normal life is liable to occur, and how such failure can be guarded against.

For the purposes of practical Medicine we must, however, push our investigations far outside the limits of normal physiology and anatomy, and study the consequences of quite unusual or not yet understood disturbances in environment, including, for instance, more or less successful attacks by foreign organisms. For Medicine the symptoms, such as pain, depression, wasting, failure of function, or abnormal behaviour, are all signs of a disturbance in normal environment. In such cases the struggle for life has been at least partially or temporarily unsuccessful; but the Hippocratic conception implies that there always is a struggle. Usually the struggle is more or less successful in the end, so that health is re-established. Sometimes, however, the struggle is more or less unsuccessful, and results in permanently impaired health or death unless conscious intervention in the struggle is effective.

It is on this struggle against abnormal disturbances, and the means of helping in it, that medical science must centre its attention, as Hippocrates first pointed out. For mechanistic biology there is no real struggle, and if the mechanistic biology represented truth we might despair of anything further than preventive Medicine of a very restricted kind. But on this point I am heart and soul with Hippocrates, and with the traditional faith which he inspired in the ranks of our profession. I have already explained why, as it seems to me, the mechanistic conception of life is inadequate in physiology and morphology. For the same fundamental reasons it is inadequate in Medicine, and in pathology, pharmacology, and therapeutics.

To assist Nature in her struggle we must understand the struggle as fully as we can. To realize the disturbances which are confronting her we need all the physics and chemistry which are essential in normal biology, as well as what can be applied to the abnormal conditions causing disease or injury. We also need to know the biology of invading organisms if the disturbance is due to them. On the other hand, we must understand how, in detail, the struggle against the disturbance is being carried on, and we must not mistake, as we are very apt to do, the evidences of this struggle for the primary disturbance itself. It is only by patient observation, thought, and experiment, recorded, or communicated by example and orally, in the spirit of the Hippocratic oath, and continued from generation to generation, that we make progress in Medicine; but assuredly the evidences of that progress were never so striking as in our own times, or the prospects of further advance more encouraging.

Medicine has progressed along the Hippocratic pathway regardless of the mechanistic theory of life; but I think that with a more adequate biology, including proper regard for human physiology, and the definite establishment of anatomy or morphology as an experimental science just as much as physiology is, the progress will be still more rapid. I have tried in this address to give reasons for the conclusion that the mechanistic theory of life is an insufficient foundation for Medicine, and that the Hippocratic foundation is the only secure one. I well know how many, particularly outside our own profession, will be inclined to disagree with me, and I wish this address had been a less controversial one. But I am convinced that specifically biological knowledge is the scientific basis of Medicine, and that it is of very great importance to Medicine, as well as to biology itself, to be clear as to the fundamental conceptions on which biology is based. In the process of clearing our minds controversy is unavoidable, and this must be my excuse for being controversial.

EXCESSIVE AND IRREGULAR UTERINE BLEEDING IN MIDDLE-AGED WOMEN.*

BY

S. GORDON LUKER, M.D.CAMB., F.R.C.S.ED.,

OBSTETRICAL SURGEON, LONDON HOSPITAL.

THE causes of uterine haemorrhage fall into two main groups—those which are and those which are not connected with recent pregnancy. This paper is concerned with middle-aged women between the ages of 40 and 50, who have passed the child-bearing age and are therefore free from the causes of bleeding connected with pregnancy. They are subject some time during this period to the changes of the menopause, which usually consist in a diminution of the amount of the menstrual bleeding and its duration. Sometimes a period or two are missed, and a small period occurs every two or three months or at increasing intervals; occasionally, after an interval of two or three months, the next period is rather severe, amounting to a flooding; but anything in the nature of irregular or excessive bleeding is abnormal, and must be regarded with suspicion.

For clinical purposes cases of uterine haemorrhage fall into the following three groups:

1. The menstrual periods are regular, but prolonged or excessive in amount—commonly called menorrhagia. This is found most commonly in the case of fibroids, hypertrophy of the endometrium, chronic metritis, and chronic subinvolution.

2. The bleeding is excessive and irregular, or there is bleeding at times other than the menstrual periods—commonly called metrorrhagia. This suggests malignant disease—for instance, carcinoma of the cervix, or, less commonly, the body of the uterus; sometimes it is due to one of the conditions mentioned in the previous heading which has gone on for some time.

3. Bleeding occurs at some interval after the menopause and may be only slight in amount, even just a show. This always suggests malignant disease, but is occasionally due to some non-malignant cause.

1. REGULAR BUT EXCESSIVE BLEEDING.

If the bleeding is excessive and regular (menorrhagia) the most likely cause is some innocent condition—namely, (*a*) uterine fibroids, or (*b*) a group including hypertrophy

* A paper read to the Bournemouth Medical Society.

of the endometrium, chronic metritis and endometritis, and chronic subinvolution, which can conveniently be discussed together.

(a) Uterine Fibroids.

It has been stated that nearly 20 per cent. of all women get a fibroid tumour of the uterus. In many instances the tumours are small and cause no symptoms; nevertheless operations for fibroids form a large proportion of all gynaecological operations. The diagnosis generally rests on a history of menorrhagia with an irregular enlargement of the uterus. If, however, there be only one small fibroid polyp in the uterus the increase in the size of the organ may not be sufficient to be detected by bimanual examination, and the diagnosis must be tentative until confirmed after dilatation of the cervix and exploration of the uterine cavity with the finger. For fibroids operative treatment is nearly always the best so soon as advice is sought for bleeding, or a lump, or for pain. Pain is a rare symptom, but may be caused by pressure effects or by red degeneration. After the age of 40 removal of the fibroid by vaginal or abdominal myomectomy, which is the operation of choice in younger women, is less often indicated than hysterectomy, which is a straightforward and safe operation and removes from the woman, who has finished with child-bearing, an organ which may otherwise give rise at any time to discharge or bleeding, or may become affected by malignant disease. Fibroids do not cease to cause symptoms after the menopause, but often delay or prevent it.

The treatment of fibroids by radium or x rays is not to be advised unless there is some reason—such as real obesity with fatty heart, or severe diseases of some other system—why the patient should not have an anaesthetic and an abdominal operation. Though neither radium nor x rays can "disperse" the tumour, they may cause degeneration and subsequent sepsis; and there is always the chance that the tumour may be associated with carcinoma of the body of the uterus, or, more rarely, may be a sarcoma. Radium acts by destroying the endometrium, but has no effect on the fibroid, which may degenerate and become infected after the radium treatment; and it is not a certain cure for the bleeding. The use of x rays, which act entirely or mainly on the ovaries, producing an artificial menopause, is contraindicated. It is a modern method equivalent to the old operation of oöphorectomy for fibroids, which has been abandoned for years. The tumour of the uterus remains and may undergo acute septic degeneration requiring operation. The treatment by x rays is prolonged and tedious, and its only justification is where fear of an operation cannot be overcome. There are, however, some ill effects, such as burns and general anaemia, which may follow the application of x rays.

(b) Hypertrophy of the Endometrium, etc.

In this class are those who have excessive bleeding of the menorrhagic type, but have not got fibroids or malignant disease; the uterus is a little enlarged and its walls thickened, though this change is not always sufficiently marked to be detected by bimanual examination. The uterine walls are thicker and firmer than those of a normal uterus, and contain a greater proportion of fibrous tissue; there are changes in the vessels such as occur during involution after parturition—namely, the formation of new vessels inside the old—but these are not complete, as shown by the presence of a new layer of elastic tissue in the vessel; there is a condition of subinvolution, and round-celled infiltration is present, indicating that the change is of an inflammatory nature. According to the predominant change the condition may be called "fibrosis uteri," chronic metritis, or chronic subinvolution. The old clinical term "heavy fibroid uterus" is reasonably correct. Changes in the endometrium are present also—sometimes a hypertrophy with formation of polypi, sometimes a thickening with an increased amount of glandular or interstitial tissue (endometritis).

The treatment of this condition is far from easy. Drugs such as iron and ergot have been used very extensively, but in many cases their action is far from satisfactory. The most useful drugs are calcium and pituitrin. Calcium is best given as fresh calcium lactate, made up by combining lactic acid with precipitated calcium carbonate; 60 grains should be taken every day for a week. Pituitrin should be given by intramuscular injection in doses of 0.5 c.cm. If this treatment is not successful, further investigation should be carried out under an anaesthetic. A laminaria tent is inserted into the cervix uteri overnight, and next day the cervix is dilated up to Hegar 19 or 20, so that the finger may be passed into the uterus, which is then investigated bimanually so that any submucous fibroid or polyp may be felt and removed; curettage will then show whether the endometrium is excessive; a microscopic section should always be prepared in order to ascertain the nature of the endometrium and to exclude the presence of malignant disease. The operation is concluded by swabbing out with tincture of iodine and giving a hot intrauterine douche. After such treatment a fair number of patients—those who have hypertrophy of the endometrium—will be improved and some will be cured; others, however, will be no better than before, and should be treated with radium or by hysterectomy.

Radium therapy is most useful in these cases; it causes a complete cessation of bleeding in three-fourths of the cases, and relapses of severe bleeding are very rare. Its action is on the endometrium; it causes an exfoliation of the hypertrophied and congested uterine mucous membrane, which is afterwards replaced by healthy cells. In addition, perivascular fibrosis and proliferation of the endothelial cells of the enlarged uterine blood vessels is set up, which progresses to a condition of endarteritis obliterans.

The dosage required is 100 mg. of radium bromide introduced into the uterine cavity for twenty-four hours, or 50 mg. for thirty-six hours. The radium bromide is contained in a small tube of platinum 1/2 mm. in thickness, the platinum acting as a screen for the harmful secondary rays. This is placed in an outer tube of silver 2 mm. in thickness, with a long silver wire attached. This silver tube acts as a useful container and an extra screen for the secondary rays. As the dosage of radium is now often alluded to in terms of element, it is useful to state that radium bromide contains, roughly, 50 per cent. of radium element.

The method of application consists in introducing the tube of radium into the uterine cavity under an anaesthetic. The patient is prepared as for a curettage operation. The cervix is dilated and the uterine cavity explored with the finger or a curette, according to the degree of dilatation. By following this method it is possible to confirm the diagnosis that there is no fibroid polyp in the uterus and to exclude the presence of carcinoma of the endometrium of the body of the uterus. It is always safest, even if nothing abnormal is found, to have a microscopical section made of the endometrium, removed by curettage, as in a small percentage of cases this will show unsuspected malignant changes. After curettage the uterine cavity is douched and swabbed out with methylated spirit, and the tube containing the radium, with wire attached, is introduced into the uterine cavity. The vagina is plugged in order to prevent the extrusion of the tube by the uterus. After twenty-four hours the tube is pulled out of the uterus by traction on the silver wire; this is easily done, and there is no risk of the os uteri closing down and preventing removal of the radium. The usual result is complete cessation of bleeding, but in some instances one or two slight periods occur before the bleeding ceases; occasionally there is one excessive period before amenorrhoea is established. In the small proportion of cases which are not completely cured there is amenorrhoea for from six months to a year, and then the periods begin to return. Such cases are sometimes cured by a second application of radium, but hysterectomy is generally indicated. Second applications of radium are not so reliable as the first.

Contraindications to the use of radium are chronic cervicitis and laceration of the cervix with an inflamed erosion and much discharge, and any coexistent chronic salpingitis. In the latter, acute salpingitis may be set up by the radium application; in the former, the cervix may be suspect for carcinoma.

Treatment by extracts of endocrine glands is disappointing. When signs of thyroid deficiency are obvious the administration of thyroid gland will cause a general improvement in health, and with this an improvement in symptoms of menorrhagia; but it is quite unusual to find these signs in a woman who is suffering from excessive bleeding about the time of the menopause. Pituitary extract is certainly useful for its immediate effect on the uterus, but its effect is not prolonged. In slight cases a series of injections of pituitary extract are useful in tiding a patient over a prolonged or excessive period. These are the only two extracts which can be relied upon in the treatment of bleeding at the menopause. The various forms of ovarian extract, corpus luteum extract, and combinations of these with other extracts, have no action which can be relied upon. It is probable that the preparation of the extracts destroys the active principle. Occasionally good results will be obtained, but these are so rare and uncertain that use of these extracts cannot be considered therapeutically scientific. The excessive bleeding results from retrogressive changes in the uterus which cannot be controlled or affected by ovarian medication.

2. Irregular and Excessive Bleeding.

Carcinoma of the cervix uteri is very common; some irregularity in bleeding, or blood-stained discharge, or bleeding, it may be slight, on examination, or after coitus, is usually present, but the onset may be very insidious, and the first unmistakable sign may appear only when the disease is well advanced; this is especially true when the growth has originated in the cervical canal. It has thus become the accepted rule that any, and every, woman who complains of any excessive or irregular bleeding or blood-stained discharge, particularly about the time of the menopause, must be examined with the greatest care; if there is no palpable or visible sign of carcinoma of the cervix there still remains the possibility of carcinoma of the cervical canal or body of the uterus. This may necessitate careful examination under an anaesthetic; the cervical canal and uterine cavity must be thoroughly dilated and examined, and the scraping or curettage sent for microscopic section. The importance of diagnosis and treatment at the very earliest moment may be emphasized if it is realized that in the out-patient departments of hospitals two cases of carcinoma too advanced for operation are seen for every one that is operable.

The best treatment of carcinoma of the cervix is by an operation removing the whole uterus and appendages with a cuff of vagina, as freely as possible, with the cellular tissue round the cervix and the iliac glands. The results of this operation, when performed by those who have made themselves familiar with it, are surprisingly good; roughly 40 per cent. of the cases are cured and free from recurrence after five years, according to the latest expert figures available. The primary mortality is quite small; patients who suffer a recurrence have a period of from one to five years of freedom from pain, even from discomfort, and the terminal stages are characterized more by a general debility than by the awful bleeding and foul discharge which is present when no operation has been done. This radical operation is undoubtedly the best treatment so long as the condition is operable. The treatment by radium cannot compare with this, and as a curative agent it must take second place. Its effect is to cause improvement in the local condition for from six to twelve months. As an adjuvant, or in the treatment of inoperable cases or for early recurrences after operation, its palliative effects may be beneficial.

3. Bleeding and Blood-stained Discharge occurring after the Menopause.

This always suggests malignant disease; but whereas before the menopause and the age of 45 cancer of the cervix is twenty times more probable than cancer of the body of the uterus in women who have borne children, as the age of 50 is approached the probability of carcinoma of the body of the uterus becomes equal to that of carcinoma of the cervix.

Cancer of the body of the uterus starts in the epithelium or glands of the endometrium and is less rapid in its growth, remaining local for a much longer time; except in its advanced stages it can only be diagnosed by exploratory curettage or digital examination of the uterine cavity. The large majority of cases are operable when first seen, and the operation of pan-hysterectomy is followed by very good results. Patients in this class must generally be given an anaesthetic to confirm the suspicion of cancer of the body; if cancer of the body is not present, senile endometritis will be found, and this will be cured by curettage.

When cancer of the body of the uterus has become inoperable palliative treatment alone is left; the growth extends to the surrounding structures and the intestines, and neither radium nor x rays can be used with safety.

THE EPIGLOTTIS IN RESPIRATORY OBSTRUCTION UNDER ANAESTHESIA.

BY

H. MORTIMER WHARRY, F.R.C.S.,

ASSISTANT SURGEON TO THE THROAT AND EAR DEPARTMENT OF THE BOLINGBROKE HOSPITAL.

Respiratory obstruction under anaesthesia is a matter of considerable importance to every anaesthetist, but of vital interest to the throat surgeon. I do not propose to deal with the minor crises which arise during the course of an anaesthetic, and are overcome by such simple but all-important manipulations as forcing apart the clenched teeth, gagging open the mouth, holding the jaw forward, pulling out the tongue, swabbing mucus or blood out of the throat, and performing artificial respiration. My object is to push a step further in the knowledge of causes of dyspnoea in the normal air passages. The emergencies I have in mind are rare, but when they do occur, usually result either in the performance of a tracheotomy or in the death of the patient, or sometimes both.

Having had the opportunity of dealing satisfactorily with a number of these cases, and of making certain definite observations in the course of treating them, I feel justified in making some suggestions as to a routine method of procedure to be followed during the very short interval of time which elapses between unrelieved respiratory obstruction, subsequent cardiac failure, and the patient's death.

There can never be any doubt as to the identity of this clinical picture, which must be diagnosed from cardiac or respiratory failure due to shock, chloroform poisoning, or depression or poisoning of the respiratory or cardiac centres in the central nervous system.

The patient's colour affords the first indication that all is not well. The cyanosis is often concurrent with difficult or poor respiratory movements. This change of hue gradually becomes intensified and is soon dark blue with a blackish tinge. Respiration ceases altogether, and the pulse becomes rapid and feeble. The mouth is gagged open, the tongue pulled out, and artificial respiration is performed, but without effect. The pharynx is swabbed clear of mucus and an oxygen tube introduced in vain.

There is clearly some laryngeal obstruction, and if this is relieved at once the situation is saved, but if not the heart finally ceases to beat, the colour turns from blue-black to white, the skin surface turns cold, and the flesh when cut no longer bleeds. At this point the patient is technically dead, but may be resuscitated within two minutes.

I propose to deal with this type of crisis in two stages: (1) When respiration ceases, and efforts to restore it have failed owing to an obstructed airway, but the circulation is still maintained. (2) When respiration has ceased for so long that the circulation fails also. The treatment of stage 1 is so closely concerned with the epiglottis that I cannot do better than discuss this structure from the point of view of anaesthesia.

THE EPIGLOTTIS.

Where there is no laryngeal disease the epiglottis is the key to the lower air passages. Although the laryngeal sphincter, consisting of the arytenoid, thyro-arytenoid, and thyro-aryepiglottidean muscles, may be thrown into spasm, this only occurs when anaesthesia is so light that the laryngeal reflex is present. The spasm passes off of its own accord in a short time and does not occur under deep anaesthesia.

Anatomical Varieties of Epiglottis.

(*a*) The epiglottis may be of the "overhanging" variety. That is to say, that when observed with a laryngeal mirror the larynx cannot be seen, but only the anterior surface of the free part of the epiglottis. The upper end is closely approximated to the posterior pharyngeal wall, even when the tongue is pulled forward, as is usual during indirect laryngoscopy. It is easy to understand that if the tongue falls back under anaesthesia, such an epiglottis will lie right over the laryngeal and oesophageal openings.

(*b*) The epiglottis may be of the "dead leaf" type. That is to say, it is curled laterally upon itself, the two sides being bent backwards and approximating to the centre. This type also hides the glottis to a certain extent, and may overlap it under anaesthesia.

(*c*) The epiglottis may be quite normal in appearance and yet have the following slight variations: It may be comparatively long, short, thick, thin, broad, narrow, hard, soft, rigid, or pliable. And yet if it was to be examined during an autopsy it would not attract any attention. I have known an epiglottis (which was a little long, thin, soft, and pliable) nearly cause a patient's death by becoming impacted over the larynx. But when examined *in vivo* afterwards by the indirect method it looked the same as any other epiglottis, with the exception of the slight divergencies mentioned.

When I refer to the length of the epiglottis I mean its projection above the base of the tongue. This will be found to vary in different individuals.

The Physiological Functions of the Epiglottis.

The epiglottis serves two important purposes, apart from its influence in modulating the voice:

(*a*) It acts as a protection to the larynx from the normal secretions in the mouth. If it were not for its position and formation saliva which now collects either in the valleculae or pyriform fossae would drip into the trachea and cause constant coughing.

(*b*) Opinions differ as to its exact function in swallowing. It was held at one time that during deglutition the epiglottis was folded over the laryngeal aperture like a covering, but more recently other observers, notably Professor Anderson Stuart, have shown that the larynx is shut off by the sphincteric action of the thyro-arytenoid and arytenoid muscles, and that the epiglottis is only curved backwards by the thyro-aryepiglottidean muscles so as to form a slight cowl-like protection.

But bearing in mind the various anatomical and physiological details of this region, the projection of the epiglottis above the tongue, and the powerful muscular action of swallowing, it seems impossible to avoid the conclusion that so flexible a structure, even if not pulled over the laryngeal aperture by muscular action, could hardly avoid being swept down on to it by the passage of a bolus which fits accurately against the whole circumference of the pharynx. In fact, although it is not possible to bring forward any definite proof, it seems extremely likely that we swallow our epiglottis as far as it will go at every act of deglutition, and it would probably cause us to choke if it were not for the normal interval of reflex respiratory cessation after swallowing which allows it to recover its normal position.

Seeing that the coughing reflex is abolished before that of swallowing, it follows that there is an interval of time when the epiglottis may be drawn over the larynx by a swallowing movement while the protective cough reflex is absent.

IMPACTION OF THE EPIGLOTTIS OVER THE LARYNX UNDER ANAESTHESIA.

I have not entered into these anatomical and physiological details in order to prove or support any particular theory, but to try to find some explanation for a clinical fact which I have repeatedly experienced—that is, complete obstruction to respiration under anaesthesia caused by the epiglottis alone. It is most often to be found when the patient is in the tonsil position with a sandbag under the shoulders, but may occur in other circumstances also. In these cases I have made the following observations by digital examination.

1. A long epiglottis is sometimes found tightly impacted over the laryngeal aperture, with its extreme end curved up and closely applied to the posterior pharyngeal wall (see diagram). This type is difficult to disimpact owing to the awkwardness of passing a finger between the opposite surfaces of epiglottis and pharynx. But as soon as the epiglottis is pulled forward and pressed against the base of the tongue with the finger a free airway is instantaneously restored. An epiglottis so impacted acts as a valve allowing air to escape from the chest, but none to re-enter, and affords an obvious explanation why artificial respiration in such a case is foredoomed to failure until the airway is cleared.

Diagram showing how a long and flexible epiglottis sometimes lies over the laryngeal aperture under anaesthesia. T, Trachea. E, Epiglottis. O, Oesophagus. The author has seen three cases of complete, and many cases of partial, obstruction to respiration from this cause. Its pernicious valve-like action is also seen. Air is able to leave the chest, but inspiration is prevented by the epiglottis being drawn on to the larynx by suction. Artificial respiration is of no avail until it has been raised by the finger and pressed into its normal position against the base of the tongue, where it is held until danger is past.

2. An epiglottis which, although not tightly impacted, is nevertheless lying in contact with the posterior pharyngeal wall. It is possible that this type is an early stage of the first; and only requires a vigorous inspiratory effort to draw it on to the larynx by suction. It is common to find this clinical feature in many cases of respiratory difficulty, from the mildest to the more severe. To raise the epiglottis, and press it against the base of the tongue with the finger, again affords instantaneous relief, and artificial respiration can then be applied with confidence and success. If for any reason this fails to secure a free airway, a laryngotomy can, of course, be performed. But I have never failed to secure a free airway by these methods, and such a case has never got worse progressively until the heart ceased to function, except in cases where there was obstruction due to actual laryngeal disease.

If, however, the condition has progressed to stage 2 before it is relieved further measures must be taken.

TREATMENT OF FAILURE OF RESPIRATION AND CIRCULATION DUE TO RESPIRATORY OBSTRUCTION.

A. "*No Man's Land.*"

There is a certain region which lies between the domains of "life" and "death." All the signs of death are present: there is no breath, no visible, audible, or palpable sign of a heart beat or pulse, the surface of the skin is cold, the colour is a bluish-white, and when the flesh is cut the wound does not bleed but yields only a few drops of dark fluid. No one knows definitely how long a man may stay in this region and still climb back to life. The most optimistic would not put it at more than three minutes or the most pessimistic at less than two. So that when a patient under anaesthesia loses both respiration and circulation, the surgeon, anaesthetist, and theatre staff have only a short time at disposal, and they must use this time to the greatest possible advantage in restoring him to life.

B. *Minimum Requirements for Resuscitation.*

These are mainly physiological, and consist of (*a*) a free airway; (*b*) the presence of sufficient oxygen in the lungs to oxygenate the blood in the alveolar capillaries to the fullest extent possible; (*c*) the passage of that blood into the left auricle; and (*d*) sufficient movement of the heart to force some oxygenated blood through the aortic valve so as to enable it to circulate through the coronary arteries, and supply the heart muscle with enough oxygen to allow it to contract automatically. I make no mention of the respiratory and circulatory centres in the central nervous system, because our knowledge of them is theoretical rather than practical, we cannot exert clinical influence upon them in the time at our disposal, and we know that local treatment of the lungs and heart will produce the desired effect if accomplished in time.

To elaborate these requirements in terms of practical performance is a simple matter.

1. As soon as the emergency arises one individual must start doing artificial respiration and maintain it continuously and without ceasing for any reason, being relieved by another at any necessary intervals. Artificial respiration should be regular and unhurried, but very forcible; and should compress both lungs and heart.

2. Simultaneously another gags open the mouth, and introduces the finger as far as the larynx, raises the epiglottis and presses it forwards against the back of the tongue. If the airway is now quite free the fact will be obvious because the breath will be heard coming and going easily under the force of artificial respiration. If not, a laryngotomy or tracheotomy should be performed immediately and without hesitation, a laryngotomy being quicker and easier than a tracheotomy.

3. While this is going on a third person has brought forward the oxygen cylinder and turned on the oxygen with propulsive (but not explosive) force, and holds the tube ready to the operator's hand when he calls for it, which he does the moment the airway is free.

As soon as the operator has established the airway and holds the oxygen tube in his hand, he first tests the power of the stream of oxygen and then introduces it into the laryngeal aperture or directly into the trachea in the case of a laryngotomy or tracheotomy. The lungs are thus, in the shortest time possible, flooded and washed out with oxygen aided by powerful artificial respiration.

If these three people know what to do beforehand and act simultaneously the utmost relief is supplied within a few seconds, which is an all-important factor in treatment. The necessary movements of the heart to induce the initial automatic contractions can be brought about in the majority of patients by the vigorous passive movements of the chest wall which I have already described. Special attention must be paid to compressing the cardiac area, and this can always be done, with the possible exception of certain individuals with unusually rigid chest walls. As soon as this is accomplished and the alveolar air has been flooded with oxygen, the heart, which has been stimulated and supplied with oxygenated blood, starts to beat and the crisis is relieved.

C. *The Opening of the Abdomen below the left Costal Margin and Massage of the Heart through the Diaphragm.*

I mention this procedure because it has received a certain notoriety, but I doubt its applicability to the obstructive type of case, whatever its merits may be in primary cardiac failure when the airway is free. It is obviously useless to compel the heart to circulate fresh quantities of the venous blood which in the first place brought it to a standstill. Such an action is bound to have a deleterious effect upon the heart muscle, and possibly accounts for the occasional failures of this operation. But if the lungs have previously been flooded with oxygen in the way I have described, and fresh supplies of arterial blood laden with oxygen are occupying the pulmonary veins and left auricle and merely awaiting a beat or two of the heart to put them into circulation, then such an operation may possibly be justified. The only thing against it is that it is then usually unnecessary. The heart in most cases is readily susceptible of stimulation through the chest walls except in those whose ribs are unusually rigid, and I think this abdominal incision of problematical efficacy should be reserved for such cases. When it is employed, artificial respiration should be interrupted for as short a time as possible while the operation is actually taking place.

The Use of Drugs.

While the usual cardiac and respiratory stimulants may be of some avail when once the circulation is restored, it must be obvious that no medicines can supply oxygenated blood to the left side of the heart and so to the coronary arteries, which is the fundamental requirement at these critical moments. Nor can they reach the structures they are intended to influence until the restored circulation will carry them to their objective.

Equipment.

When there is so short a time in which to act, it is obvious that unless the necessary instruments are ready to hand the surgeon and anaesthetist will be seriously handicapped in their efforts at resuscitation. I would therefore suggest that the following instruments should be added to the usual list and kept under cover on the anaesthetist's table instead of on a shelf or in a cupboard in the operating theatre or instrument room.

1. A spatula with a blade long enough to reach the epiglottis. People with short fingers find great difficulty in holding up the epiglottis for any length of time because of the weight and power of the tongue. If such a spatula cannot be obtained, a closed sponge-holder will sometimes suffice, using the teeth of the upper jaw as a fulcrum. But the best instrument is the forefinger.
2. A scalpel.
3. A laryngotomy tube with introducer.
4. A "bi-valve" tracheotomy tube. This needs no introducer, and is the easiest type to insert.
5. A tracheal catheter.

In addition to these a properly mounted oxygen cylinder is of great use. It should either be full or have a reserve cylinder alongside. The cylinder in use should have a coarse and fine adjustment. The oxygen outlet should be ready fitted with a long rubber tube to give to the operator without delay. If it is necessary to deliver oxygen directly into the trachea, the tube can be fitted over the tracheal catheter.

CONCLUSION.

Never having heard of the part played by the epiglottis in respiratory obstruction until I discovered it for myself in making a digital examination of the larynx in a patient who was *in extremis*, I have since found this knowledge of great value on several occasions. It enables a tracheotomy or laryngotomy to be avoided, it makes it possible to complete an operation which might otherwise have to be abandoned, and it may save life where instruments for tracheotomy or laryngotomy are not available.

My suggestions as to resuscitation are the result of observations on two successful cases where both respiration and circulation had entirely ceased, and where cardiac massage through an abdominal wound was found to be unnecessary. While there is nothing new in clearing an airway, performing a laryngotomy, flooding the lungs with oxygen, performing artificial respiration, or stimulating the heart through the chest wall, I was nevertheless impressed with the advantages afforded by simultaneous team work in providing thorough treatment at the earliest possible moment. I was further influenced by the reflection made at the time, that to have interrupted this work in order to perform an abdominal operation, however short, would probably have resulted in the patient's death, since, as it was, there appeared to be hardly a moment to spare from the task of getting oxygen into the alveolar air.

ALBUMINURIC RETINITIS IN ONE EYE, EMBOLISM OF THE CENTRAL RETINAL ARTERY IN THE OTHER.

BY

W. M. BEAUMONT,

BATH.

CASES of monocular albuminuric retinitis, with no sign of involvement of the other eye up to the time of death, have not been very frequently reported, and we are indebted almost entirely to American, French, and German sources for literature on the subject. But nowhere can I find any reference to the effect of a pre-existing disease of the retina in the case of a patient suffering from nephritis. For this reason the following fragmentary notes, however incomplete, seem to be of sufficient interest to record.

T. H., aged 37, consulted me on November 19th, 1918, because, twelve days previously, he had suddenly become blind in the right eye. He had had a transient attack of dimness in that eye a month earlier. He could just count fingers, but with the other eye he read 6/6. The right pupil hardly reacted to light, but responded consensually. Ophthalmoscopically the picture was that significant of embolism of the central artery of the retina. The external half of the retina was very anaemic, and the vessels were reduced in calibre and appeared as mere threads through the gloomy media. In the macular region a "cherry-red" spot was dimly visible.

On November 27th there was less haze, and between the cherry-red spot and the disc there were four small haemorrhages. He had no perception of light in the eye. On December 18th the cherry-red spot was smaller, and between it and the very white disc were a number of glistening white spots.

On January 14th, 1919, there was advanced atrophy of the disc and the glistening spots had disappeared. On March 25th there was pigmentation around the disc, and the contrast with the white nerve head was very noticeable. The report of his doctor that there was no evidence of cardiac or renal disease was confirmed. His Wassermann reaction was negative.

I did not see him again for six years, when he came to me on March 10th, 1925, with a diagnosis of Bright's disease associated with right total and left partial loss of sight. In the latter eye the dimness had been coming on for several months. On examining the right eye the disc was found to be absolutely white and there were only to be seen a few threads which had once been arteries. The condition of the eye was consistent with the history. There was no retinitis. The left eye showed an intense neuro-retinitis with white patches of exudation covering the retina, and there were two haemorrhages below the disc. The vessels were small when they could be seen, but they were mostly hidden by the exudation. There was no stellate figure. He was very restless and had other signs of an approaching collapse. The urine showed albumin and casts, and the specific gravity varied daily between 1016 and 1020. Towards the end of his life it dropped to 1010, and there was only a trace of albumin and no casts. He had very little oedema of the body or limbs, and it was not more marked on one side than on the other. Death occurred on May 1st without any sign of retinitis in the right eye, the last examination having been made the day previous to his death.

I am much indebted to Colonel J. Cowan for the report of the *post-mortem* examination and for his help with the pathology.

The heart weighed 571 grams (about 20 ounces). On the right side there was marked hypertrophy of the ventricle. There was stenosis of the mitral valve (it admitted the forefinger up to the first joint only). The cusps were thickened and rigid; no recent vegetations. No atheroma in the aorta. Coronary arteries patent, but probably somewhat sclerosed. Both kidneys were present and were equally affected. Each weighed 107 grams (about two-thirds of the normal)—chronic granular contracted (small red) kidneys. There was profuse cystic degeneration of the cortex of each kidney. The cause of death was returned as (1) chronic nephritis, (2) uraemia and failure of the right heart.

Post-mortem examinations of patients who have had monocular albuminuric retinitis at the time of death have not often been reported, and it seems probable that such cases are extremely rare. Nevertheless there is divergence of opinion regarding the binary frequency of albuminuric retinitis, as the following selection of authorities will show:

Parsons: "The condition is almost always bilateral."[1]

Knies: "Usually bilateral, though it does not always begin at the same time. Unilateral cases are not very rare."[2]

Sym: "Always bilateral."[3]

Meyer: "The disease generally affects both eyes, but in different degrees."[4]

Noyes: "It is highly exceptional to have but one eye involved; frequently one eye is more involved than the other."[5]

Berry: "Almost invariably both eyes are affected at or about the same time."[6]

de Schweinitz: "Almost invariably both eyes are involved, but in rare instances the affection has been monocular." This author has observed one such case.[7]

de Wecker: "While in simple apoplectiform retinitis cases were not infrequent in which the affection was limited to one eye, or did not attack the second until late, nephritic retinitis generally commences simultaneously or within a short interval in both eyes."[8]

Swanzy: "Both eyes are as a rule affected, though often not equally so. A few cases are recorded in which only one eye was attacked, and in several of them it was found that but one kidney was present."[9]

Yvert: "Has seen it once affecting one eye only out of eighty-one cases."[10]

Juler: "Both eyes are always affected."[11]

The first monocular case appears to have been published by Kirsch in 1870,[12] and since then others have been reported. In Yvert's case[13] the *post-mortem* examination showed that the patient had only one kidney and that the missing one was from the same side as that on which the eye was unaffected. The absence of the kidney had apparently saved the sight.

Influenced by this case Yvert advanced the theory that an irritation is capable of reacting by means of the sympathetic nervous ganglia upon the whole capillary system of the corresponding side, thus causing disturbance of the circulation, both in the retina and in the limb on the corresponding side. This view, he considered, was supported by the cases published by Potain,[14] in which a blow on the loins was followed by anasarca limited to, or more pronounced on, the injured side. In a case of Eales's[15] an alcoholic man fell and injured his left loin. The next day he was found to have loss of sight in the left eye. Three weeks later a retinal haemorrhage and retinitis were discovered in that eye only. There was a slight quantity of albumin in the urine, the specific gravity of which was 1014. Eventually the retinitis cleared up, but some atrophied patches remained. The man appears to have recovered his health but not his vision. The case is recorded as one of "supposed unilateral albuminuric retinitis," but the non-fatal end throws a grave doubt on the albuminuric cause of the retinitis, for had it been of that nature death would almost certainly have followed.

In a case reported by Brunnet[16] there was retinitis in the right eye only and marked oedema in the right leg and arm.

With the exception of Yvert's, I cannot find other cases in which there was reported to be only one kidney, and until further support is forthcoming I think that his theory of irritation of the sympathetic cannot be accepted.

The following is a list of other reporters of unilateral albuminuric retinitis, but it is probably incomplete: Leber,[17] Magnus (two cases),[18] Plenk,[19] Cheatham[20], Moore,[21] Weeks,[22] Bull,[23] Marple,[24] Pyle,[25] and H. J. Cowan.[26] My patient controverts the necessity for an absent kidney, and also negatives the intervention of trauma of the sympathetic. The premisses were exceptional, different incomparably from all the others in that the retina was immunized by the pre-existing disease. A retina which has been to some extent converted into fibrous tissue is not likely to take on the orthodox appearance of albuminuric retinitis.

As the central is a terminal artery the part supplied by it will be completely cut off from nourishment, and will therefore undergo necrosis when embolism of the artery occurs. The condition will be eventually analogous to infarction of the brain. Owing to the situation of the retina sloughing of the necrosed tissue will not occur, but assuming that there is no infection, an attempt at absorption will follow. Leucocytes from the adjacent vessels will form a zone around and migrate into the dead tissue. New vessels will penetrate the necrosed part, the dead tissue being more or less absorbed and replaced by fibrous tissue. It would therefore be possible for such a necrosed area to become inflamed when this healing process has taken place. Nevertheless it is to be expected that a profound modification would take place in the eye which had previously suffered from embolism. The inflammatory process, if it occurred at all, would probably show a very different picture from that seen in an eye which had been previously the seat of an embolism.

That one cannot generalize from a single case is a law which applies equally to Yvert's and to mine; in his the suggestion is the absence of a kidney, in mine the presence of a retinal atrophy.

Embolism of the retina is not a very rare misfortune, and, by the unvarying law of chance, a certain percentage of cases end later by Bright's disease. Examination of a number of these might throw light on the etiology of monocular retinitis.

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THE ANTIGEN TREATMENT OF PNEUMONIA IN INFANCY AND CHILDHOOD.

BY

R. AIDIN, M.B., B.CH.,

ALDER HEY CHILDREN'S HOSPITAL, LIVERPOOL.

ECTO-ANTIGENS or immunogens have recently been introduced into biological therapy; the theoretical basis and experimental work on which their manufacture is based have been described by Sir Thomas Horder,[1] and by Ferry and Fisher.[2,3] This type of vaccine is probably less toxic than the older types, so permitting much larger quantities of the specific antigen to be administered without deleterious effects. In the autumn of 1926 I began using immunogen as a routine treatment in all cases of pneumonia and bronchopneumonia, and have compared the results obtained with those of the previous nine months.

All the patients were under 14 years of age, many of the infants suffered to some degree from rickets, a few from severe malnutrition, and in a few the pneumonia was terminal or complicated by severe enteritis. Cases of lobar pneumonia and bronchopneumonia are included, the majority being of the latter type. I have attempted to keep the standard of diagnosis uniform; all patients who showed evidence of pulmonary consolidation and symptoms of toxaemia were diagnosed as cases of lobar pneumonia or broncho-pneumonia, even though the disease was of brief duration. Some of these cases would doubtless have been regarded by others as capillary bronchitis or pulmonary congestion.

It is difficult to estimate the value of any specific therapy in the pneumonias of childhood. In the present series of cases some of the patients who had been ill only a few days, and who on admission showed signs and symptoms of bronchopneumonia, recovered in a few days after one injection of immunogen; but others with similar histories, signs, and symptoms recovered as rapidly without it. The combined pneumococcus immunogen of Parke, Davis and Co. was used; it is an extract of types 1, 2, and 3 of the *Diplococcus pneumoniae* together with an extract of haemolytic and non-haemolytic streptococci. Immunogen was injected as soon as a patient was admitted or as soon as the disease was diagnosed in a patient already in hospital. The dose varied from an initial injection of 5 minims in infants to 10 minims in older children. The injections were usually repeated on alternate days in increasing doses; six injections was the maximum number given in any one case; all were given subcutaneously by nurses; in no case did an abscess form, nor were any ill effects noticed.

From December, 1925, to September, 1926, fifty-five cases of lobar pneumonia and bronchopneumonia were treated without immunogen. From September, 1926, to February, 1927, fifty-six cases were given immunogen, but otherwise were treated in a manner similar to the earlier group.

Cases Treated without Immunogen.

Age.	No. of Cases.	Recovered.		Died.	
		Cases.	Per Cent.	Cases.	Per Cent.
Under 2 years ...	18	7	38.8	11	61.2
Over 2 years ...	37	30	81.0	7	19.0
Totals	55	37	67.2	18	32.7

Cases Treated with Immunogen.

Age.	No. of Cases.	Recovered.		Died.	
		Cases.	Per Cent.	Cases.	Per Cent.
Under 2 years ...	15	10	62.5	6	37.5
Over 2 years ...	40	40	100.0	0	—
Totals	56	50	89.3	6	10.7

The favourable results in the group of cases treated with immunogen were so marked that the records were examined again and cases in which the pneumonia was a terminal condition or had been complicated by some other disease were excluded; but the resulting figures were even more strongly in favour of immunogen, for three of the deaths occurring in infants under 2 years of age who had been treated with immunogen occurred respectively in a marasmic infant, in an infant already moribund at the time of injection, and in an infant who recovered from the pneumonia but who died a few days later from enteritis.

The number of cases is too small to warrant any dogmatic statement, but it would seem that the immunogen had a favourable effect; the duration of the disease did not appear to be shortened, but the mortality rate was reduced.

I wish to thank Lieut.-Colonel P. Macdiarmid, O.B.E., M.D., the medical superintendent of Alder Hey Hospital, for permitting me to publish this note.

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ZINC IONIZATION IN THE TREATMENT OF SUPPURATIVE OTITIS MEDIA.

BY

W. E. CROSBIE, M.B., CH.B., D.P.H.,

SENIOR RESIDENT MEDICAL OFFICER, ALDER HEY HOSPITAL, LIVERPOOL.

THE results of the treatment by ionization of chronic suppurative otitis media at Alder Hey Children's Hospital have been so successful that it has been adopted as a routine. Over 300 children have been treated in two years, and nearly all these have been discharged. They ranged in age from 1 to 16 years. In some there was a history of long-standing otorrhoea, and in others the condition developed whilst the patient was in hospital, frequently as a sequel to bronchopneumonia. Otitis is a frequent complication of pneumonia in infants, and explains the cerebral symptoms observed in many cases.

On the occasion of first attendance at the ear clinic a thorough examination is made in order to find out the exact conditions present, with a view to establishing the cause of the chronicity, and Friel's method of classification is followed.

Where otorrhoea is combined with infection of the nose and throat, these complications are first dealt with; if granulations are present an attempt is made to destroy them by electrolysis; if, on the other hand, the case is one of simple tympanic sepsis zinc ionization is instituted.

Method of Treatment.

The object of ionization is to render the tympanic cavity sterile, the method adopted being the passage of an electric current through a solution of zinc, utilizing the coagulation

power of zinc. The technique followed is that described by Friel, and scrupulous attention to detail is absolutely necessary.

In order to ensure that the zinc solution comes into immediate contact with the infected walls of the cavity the ear must be thoroughly cleansed, and this is best done by syringing twice daily for a week with a solution of equal parts of potassium chloride, sodium bicarbonate, sodium chloride, and borax. At the end of this period the ear is syringed with sterile water, anaesthetized by a solution of cocaine, as recommended by Dr. F. P. M. Clarke (BRITISH MEDICAL JOURNAL, November 20th, 1926, p. 938), and the ionization proceeded with.

The tympanic cavity is filled with the solution zinc sulphate (2 per cent.) and a zinc electrode placed in the meatus and connected to the positive pole. The negative electrode is placed on the leg over a pad of lint soaked in saline. A continuous current, very gradually increased to 3 milliamperes as gauged by the galvanometer, is passed through and controlled by a rheostat.

The average length of treatment is from ten to fifteen minutes, at the end of which period the current is very slowly decreased to zero. The ear is then carefully dried and a little boric powder insufflated.

Applications of the Treatment.

In the treatment of granulations a bipolar electrode composed of zinc is applied directly to them and the current, as described above, passed through. For attic sepsis the cavity is thoroughly syringed, filled with the standard zinc solution, a fine zinc wire electrode is introduced through the perforated tympanic membrane into the attic, and the current passed.

Conclusions.

Zinc ionization has given excellent results, as will be seen from the following table.

Results of Treatment of Chronic Suppurative Otitis Media by Zinc Ionization.

Causes of Suppuration.	Total.	Cured.	Left Hospital.	Referred for Operation.	Still under Treatment.
Tympanic conditions solely:					
(*a*) Tympanic sepsis	154	132	15		7
(*b*) Tympanic sepsis + granulations	51	36	3		12
(*c*) Tympanic sepsis + polypi	5	1	2		2
(*d*) Tympanic sepsis + caries	4	2			2
Tympanic conditions combined with:					
(*a*) Tonsils and adenoids	44	41	1	38	2
(*b*) Nasal conditions	15	12		1	3
Tympanic conditions combined with:					
(*a*) Attic disease	7	2	2		3
(*b*) Mastoid disease—					
Previous operation in hospital	12	8			4
Previous operation before admission	14	12	1		1
Tympanic conditions combined with:					
(*a*) External otitis	11	11			
(*b*) Stricture of meatus	1	1			
Totals	318	258	24	39	36

In cases treated soon after onset and showing no complications one ionization has generally been followed by cure. If, however, the discharge persists after one or two treatments, complications must be sought for. It has been noticed that after ionization a much more effective view of the parts can frequently be obtained, as their turgidity is diminished.

It is useless to advocate zinc ionization as a cure-all, and it is equally futile to ionize a tympanic cavity if septic foci are left in the nose, mouth, or throat; in the presence of disease of the mastoid, ionization is of little service except as a post-operative measure.

The number I have classified as cured (as judged by the complete cessation of the discharge from the ear) may appear somewhat larger than the figures quoted by some other workers, but it is influenced by the fact that all patients are treated as in-patients, and are, consequently, under the best conditions for the prevention of any reinfection.

Careful records of each case are taken, and every endeavour is made to keep in touch with discharged children. Seven have been readmitted with a recurrence of the ear condition, but in each of these it has been evident that after-care has been insufficient.

The best results have been obtained in those cases which have developed otorrhoea whilst in hospital, so that treatment could be commenced within a few days of the onset of the discharge. This would seem to suggest that ionization might be of service in fever hospitals for patients suffering from post-scarlatinal middle-ear infection.

I am indebted to the medical superintendent of Alder Hey Hospital (Dr. P. Macdiarmid) for permission to make use of the statistics obtained in the hospital.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A PAROXYSM OF AURICULAR FIBRILLATION CAUSED BY ELECTRIC SHOCK.

THE paper by Professor John Hay and Dr. Wallace Jones on "Trauma as a cause of auricular fibrillation," published in the JOURNAL of March 26th (p. 559), prompts me to put on record the following case.

A man, aged 35, came to consult me in the evening of November 14th, 1926. He stated that during that afternoon, while working in a tunnel, he took hold of a large portable electric lamp which had been temporarily connected with the switch of a motor. He immediately received a shock and was unable to release his hold of the lamp. When the current was cut off by one of his fellow workmen he fell backwards, but did not apparently lose consciousness. He felt dazed and was conscious of a strange fluttering sensation in his chest. After a rest, however, he was able to resume his job and continued at work for the rest of the afternoon.

He walked about a mile and a half to my house, and when I saw him he was not obviously distressed though he complained of feeling shaken, and still felt the fluttering in his chest. There was a small burn on the right thumb. The pulse was quick and irregular, and a polygraph curve showed a ventricular venous pulse with a radial rate of about 118 per minute. Certain parts of the radial curve showed a tendency to a regular recurrence of the irregular beats, which could be spaced, in the manner shown by Lewis, to occur in the irregular pulse which is sometimes associated with auricular flutter. It is possible, therefore, that this was a paroxysm of auricular flutter rather than fibrillation.

Twenty-grain doses of potassium bromide were prescribed and he was advised to go home and stay in bed. When he was seen next morning the pulse was regular and a polygraph curve showed that sinus rhythm was restored at a rate of 66 per minute. No disease of the heart could be detected. The apex beat was in the normal position and the sounds were free from murmur.

I have known this man for many years. He has never had rheumatism. Like at least two others of his family, he has suffered for many years from partial deafness associated with nasal obstruction, but apart from this he enjoys good health.

Hull. E. E. LASLETT, M.D.Vict.

RUPTURE OF THE RECTUS ABDOMINIS MUSCLE.

IN the JOURNAL for April 30th Mr. P. J. Moir and Mr. C. R. McCash describe interesting cases of rupture of the rectus abdominis muscle occurring in healthy persons during severe physical effort. The following case furnishes still another example, and may also be of some interest.

On July 22nd, 1917, an ambulance attendant was, with one assistant, carrying a very heavy patient on a stretcher up a difficult staircase in a nursing home, when he felt a tearing pain in the right side of his abdomen. He struggled through his work during the next two days, but was then forced by increasing discomfort to enter the Glasgow Western Infirmary.

Examination revealed a slight swelling over the right rectus muscle, and this area was exquisitely tender. There was no ecchymosis. On operating I found that the sheath of the right rectus was intact, but on opening this I saw at once that the muscle, except at its medial and lateral borders, was torn across. The gap between the retracted torn fibres was filled with blood clot. The level of the injury was about two inches below the umbilicus. Muscle and sheath were sutured, and the wound closed.

The patient has been at work continuously since his dismissal from hospital.

Glasgow. CHARLES BENNETT, M.B.

LOCAL ANAESTHESIA IN SUBMUCOUS RESECTION OF THE NASAL SEPTUM.

THAT a local anaesthetic method, such as that of McKenzie, ought to be more widely known is evident from the fact that the operation is still performed under general anaesthesia in certain centres. General anaesthesia causes more haemorrhage, makes the operation more difficult, and is more dangerous.

The following points may be added to Dr. Sturm's excellent account of Dr. Dan McKenzie's local anaesthetic method.[1]

1. Anaesthesia is improved if particular care is taken to apply the cocaine and adrenaline to the mucosa overlying the spheno-palatine ganglion, an area situated just behind and above the posterior end of the middle turbinal.

2. In cases where the anterior edge of the quadrilateral cartilage is dislocated the usual application of cocaine and adrenaline to the mucosa of the nose should be supplemented by an injection of novocain and adrenaline into the skin covering the anterior edge of the displaced cartilage.

3. The quantity of cocaine (3 grains) advocated by Dr. Sturm may be largely exceeded without any ill effects.

4. Hospital patients may go home the same day, to return the following morning; the packing is then removed and is not replaced.

Manchester. B. MCKELVIE, M.B., F.R.C.S.Ed.

PEDUNCULATED SUBMUCOUS FIBROMYOMA OF THE STOMACH.

THE following details of a case of submucous gastric fibromyoma, which at first was thought to be gastric ulcer, seems to be worthy of record.

An unmarried woman, aged 32, well developed, of mixed European, African, and Burman descent, had had good health until November 27th, 1924, when she felt tired and giddy and passed tarry stools. The family history was good, with the exception that her mother had died at the age of 48 from cancer of the stomach. There was no vomiting or abdominal discomfort of any kind. By the beginning of June, 1925, she had recovered entirely and remained well until the beginning of February, 1926, when she again felt tired and ill and passed dark stools. On February 12th, the abdomen was heavily kneaded, which is the Burmese panacea for all abdominal troubles; soon after this the patient vomited a considerable quantity of blood. When admitted to hospital on February 17th, 1926, her condition was bad. She was intensely anaemic, the face and ankles were oedematous, the temperature 101°, pulse 150 and feeble, and respirations 26. The case was diagnosed as bleeding gastric ulcer, and medical treatment was given, the temperature continuing to range between 100° and 101°. Three days later she developed parotitis which cleared up with fomentations, and on February 23rd her blood gave a positive Widal reaction in a dilution of 1 in 80. She was then treated as a case of enteric fever complicated by gastric ulcer. The temperature returned to normal on March 3rd, the anaemia slowly disappeared, and the patient was discharged from hospital on April 6th, 1926.

Five months later the patient was again suffering from haemoptysis and passing tarry stools; she stated that the trouble had returned on August 20th. On admission to hospital her condition was good, the temperature normal, the pulse 84, there was no pain or tenderness of any kind, but she was very anaemic. One morning a small movable tumour was felt in the epigastric region, which disappeared suddenly, and was not detected again. She continued to pass blood in the stools, and on September 9th a test meal showed that the free and total acids were normal; *x*-ray photographs indicated a distinct tumour at the upper end of the lesser curvature.

On the following day she was given scopolamine, morphine, and spinal anaesthesia with stovaine, local anaesthesia with novocain, and a few whiffs of A.C.E. mixture. The abdomen was opened by an incision extending from the ensiform cartilage to the umbilicus, and a freely movable pedunculated tumour was found high up, attached to the lesser curvature of the stomach. As it was difficult to reach the attachment of the tumour from outside the stomach an opening was made over the lower part of the tumour and the pedicle was separated from the stomach wall on the inside. Several bleeding vessels were tied, and, since the haemorrhage continued, a silk purse-string suture was tied round the raw areas. The size of the tumour was 6 by 4½ by 4 cm., and the area of its attachment was about 3 by 2½ cm.

Lieut.-Colonel J. Taylor, director of the Pasteur Institute, Rangoon, reported that the tumour was a fibromyoma. The patient made an uninterrupted recovery.

W. F. BRAYNE, M.B., Ch.B.,
Lieut.-Colonel I.M.S.
Mandalay, Burma. A. I. SIMON, M.B., B.S.

[1] BRITISH MEDICAL JOURNAL, April 16th, 1927, p. 720.

Reports of Societies.

THE USE OF FASCIAL GRAFTS IN HERNIA.

AT a meeting of the Devon and Exeter Medico-Chirurgical Society on April 21st, with Dr. R. EAGER in the chair, the President, Mr. A. L. CANDLER, read a short explanatory paper on the subject of the use of fascial grafts in the repair of ventral and inguinal hernia.

Mr. Candler quoted extracts from the paper by Gallie and Le Mesurier in the *British Journal of Surgery*, October, 1924, and lantern slides of the illustrations in this article were also exhibited. Mr. Candler showed four patients who had been so treated. The first was a man, aged 47, who for eight years had had a ventral hernia as big as a football, following gangrene of the abdominal wall after appendicectomy and drainage. A graft composed of three strands of fascia had been inserted in 1926 with good results. A lad aged 17 had been operated on in 1923 for a left obturator hernia, the pelvis being full of pus and adhesions. After drainage of the cavity the abdominal wall had become gangrenous, and there had resulted a large ventral hernia, with a gap four inches wide, in the aponeurosis. In 1925 this gap was closed with fascial sutures, the peritoneum being repaired with catgut. The patient had been able to work as a farm labourer since this operation. A man, aged 40, had been operated upon two months previously for the repair of the posterior wall of the inguinal canal by fascial sutures. There had been a recurrence of the hernia for which the ordinary radical cure operation had been performed in 1921. The last patient was a man who had received a bayonet wound in the left iliac region during the war with a resulting large ventral hernia, which had recurred at varying intervals after three operations for repair. A fourth operation had been performed in December, 1926, for repair by fascial sutures, but suppuration in the wound had led to an unsatisfactory result.

Dr. SHAW showed a woman, aged 35, who had had an operation for appendix abscess in 1913. A ventral hernia resulted, for which repair was attempted in 1916, and again in 1919. After a further recurrence the gap was once more closed in December, 1926, four strips of fascia lata being grafted for this purpose. At the present time the wound appeared to be quite sound and the result of the operation was most satisfactory. Dr. Shaw remarked that the case was a good illustration of the value of "living suture repair." At the operation a definite gap was found which was surrounded by a hard scar, and bridged over by the thinnest areolar tissue. Fascial grafts were used to make a "darn" filling in the space, the sutures being carried through the hard edges.

Mr. WAYLAND SMITH showed a man, aged 46, who had had a left inguinal hernia for over thirty years. When first seen there was a scrotal hernia "the size of a pint mug," and an inguinal ring admitting three fingers. He came to hospital because the hernia was increasing in size and becoming painful. In May, 1926, the hernia was operated upon, and the inguinal canal repaired with four strips of fascia lata. The patient had restarted work as a gardener two months after the operation, although advised further rest. There had, however, been no recurrence. Mr. Wayland Smith also showed a woman, aged 46, who had developed a ventral hernia and wide separation of the recti after childbirth five years previously. Excision of the hernal sac and the stretched linea alba was performed in August, 1926. A new linea alba had been constructed by suturing the cut edge of the sheath of the anterior rectus muscle with five strips of fascia lata.

Clinical Cases.

Dr. R. N. CRAIG showed a woman, aged 54, whose condition had been diagnosed as Charcot's disease. During the past six years a gradual deformity of the left knee and right ankle had developed. The pupils were equal but did not react to light; the reaction to accommodation was

poor. The triceps reflex and knee-jerks were absent on both sides. There was no disturbance of sensation. The Wassermann reactions of the blood and the cerebro-spinal fluid were negative. The luetic reaction of the cerebro-spinal fluid with colloidal gold was positive. A radiogram showed subluxation and complete disorganization of the left knee-joint with massive proliferation of bone. An unusual feature was the presence of pain in the left knee; this had diminished under a full course of salvarsan.

Dr. Craig also showed a boy, aged 2½, born with hydrocephalus which had slowly progressed. Double optic neuritis had developed, sufficiently intense to cause apparently complete blindness. He had been under treatment from October, 1925, and for a year and three months lumbar puncture had been employed every week. After this it had been performed in alternate weeks, and it was now only necessary once in three weeks. Twelve months ago the head circumference had been 22½ inches; it was now 22 inches, and the child was able to talk intelligibly. The eyesight had improved sufficiently for him to pick up twelve pins from off the floor on one occasion—which he proceeded to swallow one by one! The diminution in the head circumference, Dr. Craig said, had been carefully checked, and the most interesting feature in the case was the undoubted improvement in mentality since the lumbar punctures had been started. It had been found that the child on each occasion stood well the withdrawal of 40 c.cm. of cerebro-spinal fluid, after which vomiting of the cerebral type would begin, lasting for six or seven minutes. In his opinion the repeated withdrawal of cerebro-spinal fluid encouraged atrophic changes in the choroid plexus, and so led to cessation of a hypersecretion. The possibility of free withdrawal of this fluid clearly showed that the hydrocephalus was not of the obstructive type; a total of two and a half pints had been removed.

Dr. R. EAGER described some cases of hydrocephalus with very large increase in head circumference seen in mental hospital practice.

Dr. GORDON showed a man, aged 62, suffering from lead palsy; he had been a painter all his life. For a month before admission to hospital he had had intense colic and vomiting, with progressive tremor weakness of the hands, anorexia, and anaemia. A blue line was noted on the gums and wrist-drop on the right side. The blood pressure was now 170/110. There was weakness and slight wrist-drop with inability to extend the third and fourth fingers. The blue line had disappeared from the gums and the pallor was less marked than formerly. Treatment had consisted in giving magnesium sulphate and potassium iodide daily by the mouth; seven teeth had been extracted on account of oral sepsis.

Dr. CRAIG showed a middle-aged woman with dysphagia, thought to be functional in origin. Some fullness of the neck below the chin had recently shown itself, but no definite tumour could, however, be felt. The patient had lost two pounds in weight each week for the past three weeks. Mr. WORTHINGTON said he had made a laryngoscopic examination of Dr. Craig's patient and could find no abnormality except that the larynx appeared to be somewhat pushed forward. He recommended oesophagoscopy in order to exclude the possibility of a post-cricoid growth.

Mr. LOCK showed a child, aged 6 months, with a cystic swelling under the left lower jaw which had been present since birth, and had increased in size more rapidly in the past few weeks. It was thought probably to be a cystic hygroma. He said that an operation would probably be undertaken in the near future, and agreed that it was only by microscopic section that a definite diagnosis could be made. Mr. WORTHINGTON described the difficulty of operation on similar tumours, which had proved to be branchial cysts. Dr. SOLLY drew attention to the modern hypothesis in relation to endotheliomata, and said that these tumours were epithelial and not endothelial in origin. Dr. Solly showed also a series of pathological specimens: a section of an endothelioma of the submaxillary gland; a section of a cystic adenoma of the uterine mucosa; a section of carcinoma of the breast secondary to chronic lobular mastitis; chronic cystic mastitis; and a glandular celled carcinoma of the ovary.

Reviews.

FUNDAMENTALS OF THE ART OF SURGERY.

SURGICAL literature nowadays consists in the main of didactic textbooks, of articles in journals varying much in originality and purpose, and of highly technical monographs, which seem to be growing in popularity, especially in America. It is, therefore, rather a pleasant relief to come across a book of less stereotyped character, such as the *Fundamentals of the Art of Surgery*,[1] by Mr. JOHN H. WATSON of Burnley. The author is an idealist, and has much to say which is of interest to the younger practitioners in the larger provincial towns, who are desirous of entering upon a surgical career. He would impose on them a very high standard "in the pursuit of an adventurous and exacting craft," and supports his opinion by a quotation from Abernethy, who said that "the hospital is the only proper college in which to rear a true disciple of Aesculapius." He lays stress on the fact that surgical operations, when performed by competent surgeons, seem so simple that anyone with a dexterous pair of hands is tempted to undertake them. Important as it is to be equipped with the necessary operative and technical skill, it is still more important to have the foresight to know when and under what conditions an operation is best performed, and the experience and ability to conduct the case safely through the post-operative period. In his preface the author says "the more one sees of practical surgery the more one is impressed by the relative frequency of unforeseen complications, and when one carefully thinks out the cause of these troubles it is only to find that most of them could be prevented. Unfortunate accidents occur to every surgeon—and they are less likely to happen in the practice of the surgeon who has judgement, skill, and experience."

Mr. Watson emphasizes the importance of the part the general practitioner must play if surgical work is to be successful. Upon him devolves the responsibility of making first examinations, of sounding the note of warning, of advising operative intervention, and seeing that no important detail of preparation or treatment is neglected, the omission of which might prejudice the recovery of the patient. The contents of this book deal with the problems, both in thought and action, that are ever presenting themselves to the busy operating surgeon. It pays graceful tribute to the masters of the art, and each chapter is introduced by an apt quotation from their legacies in literature. The first chapter is devoted to the art of surgery. The author rejects the notion that the good surgeon is born, not made, holding that he is produced by work, study, and conscience. Mr. Watson, indeed, expresses an instinctive fear of the "clever manipulator" or so-called "brilliant surgeon"; the majority of the textbooks, he thinks, are misleading, in that they are written in simple style for examination purposes, and do not describe the varied and numerous complications met with in the operations of importance and the dangers thus involved. Surgery, he says, "is made easy for the sons of Aesculapius to take too much on them." On surgical efficiency he expresses strong views, and asserts that to become a useful surgeon a man ought to spend, after qualifying, at least twelve to eighteen months as a resident, and three years as an assistant to a surgeon, and publish the work he has done; only when this method is adopted, as it is by the American College of Surgeons, will it be possible to prevent a great deal of promiscuous and harmful surgery. Young surgeons in this country, he asserts, are at a great disadvantage compared with American and Continental surgeons, who possess much greater facilities for doing research on animals. The chapter on surgical judgement is full of sound advice. The surgeon requires a long time to develop his reasoning powers and mental habits, and no written instructions can educate him; he must be master of the ancillary sciences, and realize his own limitations. The rest of the book is of more routine

[1] *Fundamentals of the Art of Surgery.* By John H. Watson, M.B., B.S.Lond., F.R.C.S.Eng. London: W. Heinemann (Medical Books), Ltd. 1926. (Demy 8vo, pp. x + 349; 65 figures. 17s. 6d. net.)

character, containing chapters on case-taking, preparation of the patient, anaesthesia, sepsis and antisepsis, technique, incisions, shock, wounds, post-operative treatment, and complications. The chapters on prognosis and complications would have been improved by the quotation of individual cases.

The book is an excellent piece of work, and is to be recommended to all who are interested in and practise surgery. It deals with the whole subject in an idealistic and humane way. It sets a high standard, which, however, can be achieved, but leaves the impression that all is not well with surgery, outside the bigger hospitals at any rate. It owes much of its value to the fact that it is written by a surgeon practising in a town of moderate size. His opinions may not be palatable to all surgeons, but he deserves all the more praise for having the courage to express them so frankly.

CANCER FROM THE CLINICAL POINT OF VIEW.

THERE is no doubt that the busy practitioner is as keenly interested in the "cancer problem" as the pure pathologist; but it is with cancer itself, rather than with the problem, that he is more immediately concerned. He will, therefore, probably approve of two books on cancer published recently in France, in which the cancer problem is not mentioned—one by MAURICE RENAUD,[2] the other by HENRI HARTMANN.[3]

Renaud defines the position of the practitioner very clearly: Cancer can be studied from a number of different standpoints; biologists, histologists, therapeutists, sociologists have their special doctrinal conceptions, the interest of which is theoretical and leads to more or less brilliant, but useless, hypotheses. What a doctor requires in practice is a precise knowledge of what is actually known about cancer. Renaud has brought together essential and well established facts relating to cancerous new growths, the stages of their development, the mechanism of the accidents and complications to which they give rise, and the clinical pictures they exhibit; he has omitted everything that does not come within this purview. His study is not of cancer in the abstract, but of cancer in the patient. Cancerous new growths have their own characteristic features and natural history, but from the point of view of the practitioner there is little that is specific in their manifestation, and their clinical history reduces itself in the main to that of the complications which they provoke. After giving a general account of the anatomical characters of cancer and its modes of extension, Renaud describes the local complications due to pressure, ulceration, and infection, and the effect on the function of the affected organ resulting from its partial destruction. An interesting instance of the tolerance exhibited by the lungs to the presence of cancerous growths is mentioned. A soldier, aged 22, in full health and activity, was suddenly seized with symptoms of mediastinal compression, and died in a few days with compression of the superior vena cava. The right lung was a solid mass of primary carcinoma, which had remained latent to within a few days of death. The greater part of the book is devoted to the distant complications of cancer, the several functional systems being considered, with separate chapters on the reactions of the fluids of the body and on infection. For instance, the question of nephritis in cancer is discussed. Renaud considers that in the more advanced stages of the disease the renal function is often affected and that an insidious uraemia develops, which is an essential factor in the production of the cancerous cachexia.

Hartmann's book, which is written in collaboration with a number of specialists on cancer of particular organs, deals with diagnosis. Its object is to give a concise statement of the early signs of cancer, for the use of practitioners. The old complaint reappears in the preface, that frequently cases are sent for surgical treatment too late to give any hope of cure. There is no doubt of the correctness of the diagnosis in such cases, only it should have been made earlier to have been of practical value. It may be hoped that Hartmann's concise notes on the characteristic signs of early cancer in the different organs may assist in reaching earlier diagnoses. It is not merely a question of diagnosis, however. Under the heading of cancer of the rectum, for instance, we find this statement: Many patients who complain of a discharge of blood from the anus, with repeated liquid stools, are treated for months for haemorrhoids or colitis, when a simple rectal examination would have immediately established the diagnosis of cancer. It has been said that more errors arise from lack of examination than from lack of skill in diagnosis.

[2] *Les Cancers et leurs complications.* Par Maurice Renaud. Paris: Masson et Cie. 1927. (Med. 8vo, pp. 322; 27 figures. 30 fr. sans majoration.)

[3] *Diagnostic des Principaux Cancers.* Par Henri Hartmann. Paris: Masson et Cie. 1927. (6 × 8¾, pp. 64. 10 fr. sans majoration.)

TUBERCULOSIS OF THE LUNGS.

IN spite of the mixed praise and blame recently meted out so copiously to the general practitioner, there is still no dearth of writers concerned with his intellectual welfare. Drs. HYSLOP THOMSON and A. P. FORD with their *Tuberculosis of the Lungs*[4] have added yet another to the numerous manuals already existing on the diagnosis and treatment of pulmonary tuberculosis. Apart from Chapters III and IV, to which exception can be taken on a number of grounds, the book seems to differ very little from many of its predecessors. As an example of the inexact type of statement in these chapters the following sentences may be quoted:

> "In children root tuberculosis is usually associated with infection of the cervical lymphatic glands, which is frequently due to the bovine type of bacillus. In Mitchell's series of 72 cases of tuberculosis of the cervical glands, the bovine tubercle bacillus was present in 90 per cent. It is probable, therefore, that in most types of root tuberculosis in children the infection is of bovine origin."

This last inference appears to be wholly unjustifiable. If the writers had been acquainted with the conclusions of the Royal Commission on Tuberculosis they would have known that one of the strongest arguments in favour of the respiratory route of infection in pulmonary tuberculosis is the fact that though the bovine bacillus is found in a large proportion of cases of cervical and mesenteric glandular tuberculosis, tuberculous lesions of the bronchial glands are almost invariably due to the human type of bacillus, indicating that the bronchial glands are infected, not from the alimentary, but from the respiratory tract. Apart, however, from the discussion on the causes and the morbid anatomy of tuberculosis, the book appears to be quite sound, and should appeal to those who are desirous of a dogmatic, rather than a scientific, presentation of our knowledge of pulmonary tuberculosis.

IN *Compression of the Lung in the Treatment of Pulmonary Lesions*[5] Dr. STUART TIDEY reiterates the views he has several times expressed on the value of external compression of the chest wall in the treatment of tuberculous and other diseases of the lungs. His main contention is that relaxation of the peripheral pull on diseased areas is the essential element in the healing of pulmonary lesions. To effect this he advocates strapping the chest from below upwards so as to crowd the lung into the upper and narrower portion of the thoracic cavity, where it will be correspondingly constricted. The application of apical splints is, he considers, bound to be unsatisfactory, since the lung, instead of being constricted, will be forced downwards into a wider part of the thoracic cavity and will therefore be free to expand more than before. On mechanical principles this argument appears satisfactory, but whether the actual results are the same as those theoretically assumed it does not seem possible to say. The point could be decided no doubt by x-ray examination of the chest; unfortunately Dr. Tidey does not appear to have controlled his procedure by this method. Several of the arguments that he advances in favour of external compression as opposed to internal compression by the introduction of gas or oil into the thoracic cavity are unsound.

[4] *Tuberculosis of the Lungs.* By H. Hyslop Thomson, M.D., D.P.H., and A. P. Ford, M.R.C.S., L.R.C.P., D.P.H. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. x + 179; 30 figures. 10s. 6d. net.)

[5] *Compression of the Lung in the Treatment of Pulmonary Lesions.* By Stuart Tidey, M.D.Lond., M.R.C.P.Lond. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Extra post 8vo, pp. xiv + 86. 3s. 6d. net.)

He states, for example, that artificial pneumothorax cannot be applied when both lungs are diseased, or when fibrous adhesions to the chest wall are present. Further, he appears to be unacquainted with the selective effect of internal compression on locally diseased areas of the lung. There is little doubt, however, that the method he advocates is well worth adopting in early cases of tuberculosis before recourse is made, if necessary, to the more radical method of treatment introduced by Forlanini.

The first volume of BLÜMEL'S book on the control of tuberculosis was reviewed on July 10th, 1926 (p. 65). The second volume,[6] which has now appeared, is of equal interest and should appeal to a wide circle of readers. In all it contains forty-three articles by different authors on the prophylaxis and treatment of tuberculosis. Most of these deal, not with the management of individual cases, but with the measures used in practice for the eradication of the disease as a social scourge. Thus the relationship between occupation, social status, housing conditions, and tuberculosis; the planning, erection, and conduct of sanatoriums; propaganda in the schools; education of the medical student and of the general practitioner; courses for those engaged in the tuberculosis service; and the general organization and administration of diagnostic and treatment centres are all taken into consideration. Statistics are given of the results obtained by different workers in the use of artificial pneumothorax, showing how even unpromising cases of the exudative type may receive great benefit and may live useful lives for some years. Finally, there are a number of contributions describing the organization of the tuberculosis campaign in different countries. The whole work is of a high standard, and compiled with that attention to care and thoroughness which is characteristic of the better kind of German book.

PNEUMOCONIOSIS.

IN spite of their engagingly modest method of expressing their claims, the two radiologists Professor H. K. PANCOAST and Dr. E. P. PENDERGRASS of the University of Pennsylvania are more than justified in bringing out their well illustrated work on *Pneumoconiosis (Silicosis): A Roentgenological Study, with Notes on Pathology*,[7] for they have had extensive experience of examining cases in America, and have made a critical survey of the literature. Although silicosis is the important factor in the production of serious lung lesions in pneumoconiosis, and is responsible for the damage in the occupational diseases spoken of as anthracosis, siderosis, and chalicosis, and though the authors were at one time inclined to substitute silicosis as an inclusive title, they decided to retain pneumoconiosis, as there may be other agents besides silica that produce the morbid changes of pneumoconiosis.

The importance of skiagraphy in arriving at a diagnosis, on which Dr. Watkins-Pitchford, chairman of the South African Miners' Phthisis Bureau, insisted, is endorsed, and a feature of the authors' book is the series of well selected skiagrams of the chest in the three stages of the disease. The detailed descriptions of these stages, as revealed by *x*-ray examination, are correlated with the pathological changes, of which a good summary is given in a separate section with full acknowledgements to Dr. A. Mavrogordato. The nature of the "dust cells" which give rise to the fibrosis, the blocking of the lymphatics, and the complication of tuberculous infection are described. In a special chapter the various occupations, such as in the different kinds of mines, granite cutting, pottery, metal grinding, cement, brick, and asbestos workers, are passed in review.

There is a short section on prevention, but, as already suggested, the most valuable part of the book, which only incidentally deals with the ordinary clinical signs and symptoms, is the diagnosis by skiagraphy.

[6] *Handbuch der Tuberkulose-Fürsorge.* Herausgegeben von Dr. Karl Heinz Blümel. Band II. München: J. F. Lehmann. 1926. (Roy. 8vo, pp. vi + 533; 66 figures. M.27.)

[7] *Pneumoconiosis (Silicosis): A Roentgenological Study, with Notes on Pathology.* By Henry K. Pancoast, M.D., and Eugene P. Pendergrass, M.D. New York: Paul B. Hoeber, Inc. 1926. (Demy 8vo, pp. xv + 186; 23 figures. 4 dollars net.)

ORTHOPAEDIC NURSING.

THE spread of the movement for the care of cripples near the places where they dwell, and the establishment of many local clinics, which can be visited by orthopaedic surgeons only at considerable intervals, has laid great responsibilities upon specially trained sisters and nurses. It is therefore well that a small handbook[8] should be produced for the guidance of probationers, nurses, and sisters. It is described as a textbook, but we are glad to be able to say that it has the merits of simplicity and brevity, so that its size excludes it from the ranks of the more pretentious textbooks.

It may be thought that a handbook of which the merits are vouched for by such distinguished authorities as Sir Robert Jones and Dame Agnes Hunt needs no recommendation by us, but nevertheless some note of its contents may be useful.

Miss EVELYN C. PEARCE is well fitted to prepare such a guide by a long course of training in the schools of Liverpool and Oswestry, and by the tenure of the post of teacher of medical gymnastics at Oswestry Orthopaedic Hospital; she may therefore be trusted to represent the mature views of her distinguished sponsors as well as the results of her own experience.

A short "foreword" is contributed by Sir Robert Jones, and the introductory chapter is written by Dame Agnes Hunt; in it, with characteristic vigour and directness, she urges her readers not to be satisfied with being mere hacks, but to strive to be apostles of the gospel of hygiene in its widest sense and to go forth and inculcate correct methods of care of children, whether crippled or not, upon parents and the world at large, thus helping to prevent as well as to cure.

It is obvious that such work requires from the orthopaedic nurse the exercise of great tact if good results are to follow and if mothers are not to resent the intrusion of the nurse into what they regard as their own sphere of discipline and training. The book is divided into eight chapters, in which the subjects of anatomy, congenital deformities, flat-foot and claw-foot, paralysis, rickets, tubercle, and deformities of the spinal column are briefly dealt with, and the making and application of plaster-of-Paris and of other splints are described. It should be of great practical use to those for whom it has been written.

NOTES ON BOOKS.

WE have so recently had occasion to refer to Christopher Heath's *Minor Surgery and Bandaging*,[9] edited by Mr. GWYNNE WILLIAMS, that the appearance of a new edition gives little opportunity for further comment. That the book is now in its nineteenth edition is sufficient evidence that the hold which it has had on its readers during the last sixty-six years shows no sign of abating. What those of us who had the privilege of knowing and listening to Christopher Heath look for in the editorship of his book is that it shall be altered no more than is necessary to bring the subject-matter up to date and that incongruities shall be avoided. In these respects Mr. Gwynne Williams has shown himself to be a good editor. It is not often that a book can boast of exhibiting no loss of vitality in the third generation; the explanation in the present instance doubtless is that *Minor Surgery* dates from the period of great teachers, among whom Christopher Heath was one of the most distinguished.

MUIR'S *Bacteriological Atlas*[10] is a small, handy volume, beautifully got up, and should prove a useful guide and companion to the student in his bacteriological studies. The plates were originally drawn to illustrate the morphological features of the various pathogenic micro-organisms for use in class-teaching, and as they were found to be of great assistance it was suggested that they should be published and so made available to a wider circle of students, as a companion to the various textbooks on bacteriology. There can be no doubt that they will serve this purpose admirably. The

[8] *A Textbook of Orthopædic Nursing.* By Evelyn C. Pearce. With a foreword by Sir Robert Jones, Bart., F.R.C.S., and an introductory chapter by Dame Agnes Hunt, R.R.C. London: Faber and Gwyer, Ltd. 1927. (Cr. 8vo, pp. xx + 155; 42 figures. 5s. net.)

[9] *Minor Surgery and Bandaging.* Nineteenth edition. By Gwynne Williams, M.S., F.R.C.S. London: J. and A. Churchill. 1927. (Cr. 8vo, pp. 439; 247 figures. 10s. 6d. net.)

[10] *Bacteriological Atlas.* By Richard Muir. Edinburgh: E. and S. Livingstone. 1927. (Cr. 8vo, pp. 134; 60 plates. 15s. net.)

coloured plates, sixty in number, are well reproduced from Dr. Muir's own excellent paintings, and they therefore bring out the particular features of the various micro-organisms with great clearness, accuracy, and completeness. A few short paragraphs of text are placed beside each plate by way of description and to draw attention to special points. We have no doubt the book will be well received.

Little Mothers and Big Sisters[11] is the title of an elementary textbook for senior schoolgirls written by Dr. HILDA HALLIDAY. Its aim is to arouse in the "big sisters" a sense of the importance of the mind in their younger brothers and sisters. Not only, they are told, is it sufficient to know how to dress, bathe, and generally take care of the bodies of the young ones, but their minds must early be taught self-discipline, and they must be helped to cultivate the habit of enjoying all good things. The little manual is warmly commended by Professor Kenwood in an introductory note. It is clearly and simply written, the print is good, and it is aptly illustrated by reproductions of five well known masterpieces. It deserves to be widely read.

[11] *Little Mothers and Big Sisters.* By Hilda Halliday, M.R.C.S., L.R.C.P., D.P.H. With an introduction by Henry R. Kenwood, C.M.G., M.B., F.R.S.E. London: Milford, Oxford University Press. 1926. (Cr. 8vo, pp. xvi + 79; 5 illustrations. 1s. 3d. net.)

PREPARATIONS AND APPLIANCES.

A Simple Spreader for Making Blood Films.

DR. W. E. COOKE (Wigan) has designed a simple spreader for blood slides, by means of which the preparation of blood films can be undertaken successfully even by novices. The spreader is a piece of glass measuring 5 cm. by 19 mm., the edges of which are very finely ground and square. A drop of blood the size of a large pinhead is placed at the end of a glass slide; the spreader is held at an angle of approximately forty-five degrees to the slide and moved backwards until it touches the drop; the motion is then reversed, the spreader drawing the blood behind it and distributing it evenly in the centre of the slide. The great advantage is that the blood does not spread to the edges of the slide, causing most of the leucocytes to be lost. The spreader is made by Messrs. Watson and Son, 313, High Holborn, W.C.2.

Ephedrine Hydrochloride.

In addition to "tabloid" ephedrine hydrochloride 1/2 grain, Messrs. Burroughs Wellcome and Co. are now supplying "hypoloid" ephedrine hydrochloride 0.03 gram (1/2 grain approximately) for hypodermic injection. It is issued in boxes of ten 1 c.cm. phials.

SIXTH BRITISH CONGRESS OF OBSTETRICS AND GYNAECOLOGY.

(*Concluded from p. 884.*)

RECURRENT PREGNANCY TOXAEMIA.

DR. JAMES YOUNG (Edinburgh) read a communication on recurrent pregnancy toxaemia. He believed that patients with this condition afforded evidence in support of the view which he had advanced in 1914 that the eclamptic toxaemia was caused by massive degeneration of the placenta. In 47 successive cases of eclampsia at the Royal Maternity Hospital, Edinburgh, toxaemia occurred in previous or subsequent pregnancies in 15 or 31.9 per cent., while in 21, or 44.7 per cent., there was recurrent toxaemia or an unbroken sequence of abortion, premature birth, stillbirth, or accidental haemorrhage. It had been discovered that in cases of abortion or accidental haemorrhage occurring in the sequence of vitiated pregnancies there might be no toxaemia. In 118 cases of "albuminuria" there was recurrence of toxaemia or of abortion in 42, or 35.6 per cent., and here again in some of the abortions there might be no toxaemia. The same observations were made in the case of accidental haemorrhage. Dr. Young stated that in all the cases, whether toxaemic or non-toxaemic, there was clear evidence that the cause of the pregnancy morbidity was degenerative change in the placenta. This must, therefore, be looked upon as a condition precedent to the toxaemia and not, as had commonly been thought, as a condition which occurred in consequence of the toxic process. These findings indicated that attention must be directed to the factors which tended to produce damage of the placenta in order to discover the causes of late pregnancy toxaemia. The toxic process which might develop in such cases was to be looked upon as an incidental occurrence. It was more likely to supervene if the damage, while involving a large area of tissue, was yet insufficient to cause immediate ending of pregnancy, and a large mass of degenerating tissue was retained in the uterus in intimate relation with the maternal circulation. Dr. Young added that these discoveries suggested the need for a revision of the classification of the late pregnancy toxaemias. They tended to show that the cases of recurrent eclampsia and recurrent "albuminuria" had a similar origin.

RADIUM TREATMENT OF CARCINOMA OF THE CERVIX.

Dr. G. I. STRACHAN (Cardiff) read a paper on further experience with radium in the treatment of carcinoma of the cervix. He stated that radium had been used in Cardiff since 1922, and that all the cases where it had been used were inoperable; 150 to 170 mg. of radium had been placed in and around the cervix for twenty-four hours, and no additional benefit had followed its application for longer periods. He advocated vaginal douching for some time before and after the use of radium, exploration of the uterine cavity to ensure the absence of pyometra, and an *x*-ray examination after insertion of the tubes to ascertain whether they were in good position. He emphasized the importance of not curetting the growth before insertion of the tubes. As contraindications to radium, he mentioned severe anaemia, foul sloughing carcinoma, pyometra, inflamed appendages, and fistulae. He stated that 97 patients had been treated. Of these, 33 were still alive, one after five years, 39 had died, and 25 could not be traced. Even in cases where there had not been cure, the amelioration in the patients' condition had been very great, and he thought that with improved technique the proportion of cures might be increased.

Mr. COMYNS BERKELEY (London) said he had first used radium treatment for carcinoma of the cervix in 1912. He had only had two cures in twelve to fourteen years. He was now using Voiselle's method, but had completely failed to obtain such brilliant results, though his technique had been exactly the same.

PATHOLOGICAL FORMS OF THE CORPUS LUTEUM.

Sir EWAN J. MACLEAN presided over the session on April 29th, which Dr. WILFRED SHAW (London) opened with a paper on some pathological forms of the corpus luteum.

Dr. Shaw referred to the classification of abnormal forms of the corpus luteum by Novák and De Linde as being too complicated, and omitting the most interesting pathological group—namely, the tarry cysts. As regards inflammatory forms of the corpus luteum he found haematomata common; in these patients there was always an increase in size in the lutein cells which might account for the menorrhagia common in these cases. He drew attention to certain tarry cysts of the Graafian follicle which superficially resembled endometriomata. These cysts could not be distinguished macroscopically from Sampson's cysts, but they arose from Graafian follicles and contained lutein cells in their walls, though these lutein cells were always abnormal. There were three closely allied types with a common origin, and he thought the reason for this was that the stimulus producing them attacked the follicle at various phases of its life-history. A characteristic feature was that they had an epithelial lining, which was derived from the endothelial lining of the capillaries. Rupture of these cysts led to implantation of lutein cells on to other sites in the peritoneal cavity. He had found lutein cells in these cases on the surface of the ovary, in the utero-vesical pouch, and even on the appendix.

Dr. J. W. A. HUNTER (Manchester) asked whether it was implied that all tarry ovarian cysts arose in this way from the corpus luteum, and that there was no endometrial origin in certain cases, as had been suggested by Sampson. Dr. WILFRED SHAW, in reply, said that he still doubted the soundness of Sampson's theory. He had not been able to demonstrate an endometrial origin in these cysts, but had been able to account for them in the way described.

CARDIAC DISEASE IN PREGNANCY.

Dr. R. A. LENNIE (Glasgow), in a paper on cardiac disease in pregnancy, considered the relation between various cardiac lesions, the parity of the patients, and the stage of pregnancy at which compensation broke down. He had collected eighty-six cases treated during the past

seven years. He showed that there was greater liability to loss of compensation in primiparae and in the earlier pregnancies than in multiparae, and that such loss in compensation was most liable to occur after mid-term in primiparae and before it in other cases. From analysis of his figures he found the best results had been obtained by Caesarean section and sterilization at term, or during pregnancy, or by hysterectomy. Chloroform had been the anaesthetic in all cases, and had proved perfectly safe.

Dr. GEDDES advocated Caesarean section under spinal anaesthesia as the quickest and safest method of delivery; it might be supplemented by gas and oxygen. He emphasized the danger of fatal bronchitis after respiratory anaesthetics. Professor LOWRY (Belfast) urged the importance of co-operation with the physician in these cases, and of having a cardiac clinic in the ante-natal department. He thought chloroform anaesthesia or any form of vaginal Caesarean section was highly dangerous in such patients. Dr. SOLOMONS (Dublin) preferred scopolamine-morphine narcosis combined with spinal anaesthesia. He had seen cases where there had been no relief after Caesarean section and where death had occurred several days later. Dr. HENDRY (Glasgow) protested against indiscriminate Caesarean section and thought that the danger of normal delivery had been exaggerated.

THE CARE OF NEW-BORN CHILDREN.

Dr. NORMAN CAPON (Liverpool), in a paper on the relation of the obstetrician to the pediatrician, suggested ways in which the health of the new-born child might be improved by co-operation between obstetricians and pediatricians. He lamented the fact that the care of new-born children was in most hospitals relegated to nurses. During the early weeks of life nurses were usually found to be self-appointed baby specialists. He pointed out that a medical opinion could only be based on anatomy, physiology, and pathology, and as regards the new-born this was only just beginning to be realized by the obstetrician. He hoped that the future would see the obstetrician and pediatrician working more closely together.

Dr. W. FLETCHER SHAW said that since 1904 a pediatrician had been a member of the staff of St. Mary's Hospitals, Manchester, and also lecturer in diseases of children. The care of the new-born and the teaching of nurses and students in the care of the new-born was in his hands. Dr. SOLOMONS (Dublin) agreed with Dr. Capon, and thought that the Manchester school was far ahead of most in regard to co-operation between obstetrician and pediatrician.

DIPHTHERIA AND ITS PREVENTION.

REPORT TO THE MEDICAL RESEARCH COUNCIL.

INFORMATION on the Schick test and active immunization as employed in the control of diphtheria, on the incidence and mortality of the disease in Great Britain, and on the preventive work which has been done in this country, the United States and elsewhere, is contained in the report[1] by Dr. J. Graham Forbes, originally written for the London County Council, and published now as one of its series of special reports by the Medical Research Council.

The rapid decline of the case mortality rate of diphtheria in London, which fell during the years immediately succeeding the introduction of antitoxin treatment from 30 to 10 per cent., is shown by figures quoted in the report to have begun to slow down. Side by side with this retarded rate of decline, which is not confined to London, there has been observed a tendency in London and some of the great towns to an increase alike in the general attack rate of diphtheria and its death rate per 1,000. For the metropolitan boroughs, arranged in five classes, a coincidence is established between density of population per acre, overcrowding in rooms, and the diphtheria attack rate. Group A, the lowest in these respects, which comprises the City, Woolwich, and Lewisham, has 24.9 persons per acre, a percentage overcrowding of 6.4, and a diphtheria attack rate of 19.9. For Group E, which is the highest and which contains Stepney, Shoreditch, Southwark, and Bethnal Green, the corresponding figures are 161.7, 28, and 35.8. A warning, however, is entered against the assumption that this coincidence necessarily implies causation. Diphtheria prevalence among close-quartered families may be held in check by the "herd" immunity, induced by minimal doses of infection, or, on the other hand, increased in a shifting population by the influx of newcomers, who not only lower numerically the resistance of the "herd," but raise the virulence of the infective organism.

The survey of Schick-testing and active immunization, as carried on in Great Britain from 1921 to 1926, is informative in a high degree. Excepting in fever hospitals, where the Schick test was applied to a number of patients for what may be described as administrative reasons, Schick-testing and immunization appear, with some other exceptions, to have proceeded collaterally. The immunization figures will be quoted.

In England and Wales there was in London community immunization in Holborn, Westminster, and Camberwell, and in the provinces, in eight areas, including Birmingham, Cardiff, Cumberland, and Surrey. The total number of children immunized was 3,008. For residential institutions, in the metropolitan area and outer ring the immunizations were 1,952, and in the provinces 3,861. For fever hospital staffs, in both London and the provinces, the figure was 1,235, and for patients 221. In Scotland community immunization was carried out in Aberdeen burgh and county, Dundee, St. Andrews, and Edinburgh up to a total of 16,324 persons. Aberdeen burgh enjoys the distinction of being the scene of concurrent immunization by means of a combined prophylactic against both diphtheria and scarlet fever. For residential institutions the Scottish figure was 75, for fever staffs 486, and for patients 875. The total immunizations for Great Britain were, on a community basis, 19,332, and for all purposes, including community immunizations, 26,085.

It appears from the figures that community immunizations in Scotland were five times as numerous as in England and Wales together, and over forty times as numerous in proportion to population. The city of Edinburgh and Aberdeen burgh and county were the main contributors to this eminence.

In the United States immunization has been practised on an impressive scale. In New York City, for example, 400,000 children have been immunized since 1918, and the diphtheria death rate is reported to have fallen from 22.7 to 7.9 per 100,000. Chicago has immunized 179,453, Boston 57,699, and Rochester, Syracuse, and Utica in New York State have dealt with smaller numbers. The work is in progress also on the continent of Europe, in India and the Australian Commonwealth, and in Uruguay.

The report presents a comprehensive survey of the methods and results of immunization against diphtheria. It collates facts and figures derived from a variety of sources regarding enterprises undertaken or in prospect in this and other lands, and shows that in the matter of community immunization England does not occupy the same dominant position as in some other departments of hygiene.

[1] Medical Research Council Special Report 115. H.M. Stationery Office, or through any bookseller. Price 2s. net.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Committee thirty-four cases were considered and £571 10s. voted to thirty applicants. The following is a summary of the new cases relieved.

Daughter, aged 62, of M.R.C.S. who died in 1876. Her only income is derived from a pension of £50, as her sister, with whom she was living, died recently and her pension died with her. At present applicant is living with an invalid niece. Voted £35, payable in monthly instalments.

Widow, aged 64, of M.R.C.S. who died in 1892. She has been advised to give up, owing to ill health and age, her nursing, with which she supported herself. Daughter, aged 25, is married, with two children, and is unable to assist the applicant; £75 was received from nursing in the past twelve months. Voted £36 in twelve monthly instalments.

Wife, aged 41, of M.B. who was helped by the Fund in February and August last year, as he is trying to build up a practice in a small way. The applicant is working in a small post on commission and has not made sufficient to cover expenses. Voted £12 towards some debts which had been incurred.

Widow, aged 59, of M.R.C.S. who died last year. She has two sons who are married, and is staying at present with the elder, but neither son is in a position to give financial assistance. Voted £35, payable in twelve monthly instalments.

Daughter, aged 60, of M.R.C.S. who died in 1913. She lives in Paris and has supported herself by teaching and making translations. Owing to illness has not been able to meet expenses. Voted £25.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, London, W.1.

MEDICAL EDUCATION AT UNIVERSITY COLLEGE, LONDON.

ADDRESS BY SIR JOHN ROSE BRADFORD.

ONE of the centenary addresses at University College, London, was delivered, on May 13th, by Sir JOHN ROSE BRADFORD, K.C.M.G., M.D., President of the Royal College of Physicians of London, who took for his subject the history of medical education at the College.

Sir GEORGE THANE, who presided, said that one hundred years ago this country had no organized or authorized system of medical education; there was no Medical Act, Council, or *Register*. During the 16th, 17th, and 18th centuries in most countries of Western Europe, notably France, Italy, Germany, Switzerland, and Holland, medical education was provided and fostered in the universities in the same way, though not to the same extent, as the sister faculties of theology and law; in this country alone was practically nothing done. The great English physicians, Linacre, Harvey, Sydenham, and others, generally went abroad for their education and degrees. In Scotland and Ireland medical schools or faculties were set up in the universities and flourished more or less vigorously—Edinburgh being the most prominent—but in England no such action was taken by the old universities until the establishment of a university in London had already produced great results in developing medical education. Medical education was at that time controlled only by the regulations of medical corporations—the College of Surgeons and the Apothecaries' Hall—for the College of Physicians took no account of the great bulk of medical practitioners. These regulations imposed a certain number of years of study, mostly spent in apprenticeship, certain courses of lectures, and hospital practice. No curriculum was devised, and the lectures and hospital practice were attended in an indiscriminate, almost haphazard way. In a calendar of medical schools in London in 1828 Sir George Thane had found, besides the new University College, four hospitals with medical schools, three hospitals without medical schools, and seventeen schools teaching various subjects, anatomy generally the chief, and bearing such names as "The Theatre of Anatomy." There were also seven teachers who announced individual courses on various subjects, as well as half a dozen dispensaries, where it was a common thing at that time for instruction to be given. Such were the conditions when University College was founded.

Sir JOHN ROSE BRADFORD began with a reference to the late Professor Starling, who had delivered the first of the series of centenary orations. Starling, he said, was not a student of the College; he came there after a distinguished career in another great school, but he was as loyal and distinguished a servant of the College as any of the great men who had made its reputation.

The orator said that the distinction between the science and the art of medicine was not meaningless nor fanciful. The practitioner of medicine who did not regulate his art by his science often escaped criticism by reason of the common supposition that medicine was only an art and not a science, and that there was something mysterious about disease that left an opportunity for the action of chance. In other words, it was not realized that failure or uncertainty was due to want of knowledge or possibly to its misapplication. Whereas the art of medicine was very ancient, the science was of comparatively recent origin. Hippocrates was a great exponent of the art, but the science might be said to date from Harvey, a matter of some three hundred years; the application of the science to the art was of still more recent date, and it was here that University College had played a distinguished part. It was not a question so much of any particular discovery having been made within those walls, although there had been many discoveries, some of them great; but rather that there had been explored and encouraged there the broader relation of the science of medicine to other sciences and to the art of medicine, and, most important of all, the development of scientific methods and of the scientific type of mind in pursuit of the art of medicine. It might be said that in the science of medicine the disease was the focus of attention, and in the pursuit of the art of medicine that the patient was the first consideration. Yet little or no success was likely to be achieved if the art was pursued by unscientific methods or in an attitude of mind which ignored the law that like causes produced like results, and that the numerous seeming contradictions were not really exceptions, but were due to the conditions being not really the same, although appearing to be so. The great medical clinicians of the past were men who observed by the scientific method; hence the value of their results, which left their successors wondering at their skill despite the limitations of their knowledge. It was scarcely an exaggeration to say that the teaching of medicine in England had not advanced very much beyond this stage at the time of the foundation of the College.

The student of one hundred years ago had no opportunity of widening his outlook on life or of coming into contact with other branches of learning. It was true that the ancient seats of learning had small numbers of men who, having studied in the humanities, subsequently turned to medicine, but those universities did not afford facilities for the development of medical study; the later developments in the older universities in this direction were subsequent to the founding of University College, and not unconnected with what took place there. In 1828 medical education was practically limited to the provision of the instruction required by the licensing bodies, and this was not of a very extensive character. The London hospitals which had schools attached to them at this period were St. Bartholomew's, St. Thomas's, Guy's, and the London; they included on their staffs not only physicians and surgeons distinguished for their knowledge, but men who were capable exponents of some of the sciences ancillary to medicine. But the position was unsatisfactory—not only inadequate and imperfect, but lacking organization and systematization; the educational problem was considered from too narrow a point of view.

The founders of University College regarded medicine not only as a practical art of great importance, but also as a branch of learning which should take its place with other study in any university that deemed itself worthy of the name. There was one other university in Great Britain where these views prevailed; the debt of University College, London, to the University of Edinburgh was very great, and Edinburgh derived its inspiration largely from the University of Leyden. University College Hospital, like the Royal Infirmary, Edinburgh, was founded thanks to the young Faculty of Medicine. But in 1828, when the teaching began in University College, there was no hospital attached. A dispensary was opened, and certain arrangements were made with the Middlesex Hospital, but at this period regular systematic clinical teaching was not in vogue at any London hospital, the students doing no more than "walk" the hospital. The founders instituted two clinical chairs, one in medicine and the other in surgery, and as soon as University College Hospital was opened two clinical professors were appointed with the special object of training students in the observation and study of disease. The greatest thing the founders did was to place the teaching of each subject in the medical curriculum in charge of an expert in that branch, and this ensured that they should be viewed from a broad and not from a utilitarian point of view.

Among other developments he referred to the institution of practical classes in chemistry and in histology. University College did not follow the requirements of the licensing bodies and institute practical classes when these were made compulsory, but it had already established the practical classes to render the teaching more efficient and to ensure that the student's knowledge was obtained first-hand; the examining bodies followed suit. Another far-reaching development was the foundation of a chair of pathological anatomy in 1828; not until 1872, he thought, was this subject compulsory in the medical curriculum. At University College in season and out of season the teaching of medicine had been correlated with the teaching of morbid anatomy. A hundred years ago the student was largely the appanage of some individual member of a hospital staff whose paying pupil he had to become to obtain the advantage of following the practice in the wards. All

such things were swept away at University College, and no fees of this kind were received by the staff. The teaching of medicine, said Sir John Rose Bradford in conclusion, was no light task, but so long as the teachers were inspired by the same ideals which spurred on the founders there was every reason to hope that, with the enormously improved equipment of the present, the successes of the future might be even greater than those of the past.

Sir GEORGE THANE, in expressing the thanks of the distinguished gathering, mentioned that it was forty-eight years since he himself spoke on the development of the medical school, and he regarded it as astonishing that he should be there on that occasion to add a postscript. He had declared as far back as the seventies that "the reputation of our College was made first by its teachers. It must now and in the future be maintained by its pupils. When the time arrives for the celebration of its centenary may it be said of us—and we need wish for no higher praise—that we proved ourselves worthy of our distinguished past." He wished to mention two names as typical of the generous traditions of this school, the names of two men who had served the College practically through the last half century—Thomas Barlow and Rickman John Godlee; to these he would add a third name, equally typical, but the name of a man still in the fullness of his service, that of John Rose Bradford.

Sir JOHN ROSE BRADFORD, replying, remarked on the pleasure with which they saw Sir George Thane once more in their midst, and said that whatever success he had himself attained it was due to the College and its teachers; among the teachers there was not one to whom he was more indebted than to Sir George Thane.

Nova et Vetera.

EARLY BOOKS ON SYPHILIS.

THE ten tractates printed in the most recent volume we have received of Monumenta Medica[1] all deal with syphilis, and are believed to be not only the earliest printed matter on the subject, but also the first examples of separate printed treatises on a single disease. They are reproduced in facsimile—black-letter type and illustrations. The introduction by Professor Sudhoff has been translated and rearranged by Dr. Charles Singer, who has given a recension in English which has been revised by the author.

It was printing which made possible the diffusion of knowledge of an ancient evil, and its recognition as a distinct venereal disease. Further, the common use of Latin established the existence of the disease in Italy, Spain, France, and Germany. However great the imperfections of the tracts, the aim of their writers was to make original contributions, not to repeat ancient texts and compilations; experiences gained in practice were published during the lifetime of the authors, who, it is clear, saw nothing novel in the disease they described, only a special variety of pestilence which had recently undergone a great increase, both in the number of cases and in their severity. The explanations of this increase were, however, in accordance with traditional views—theological, astrological, and medical. Whatever the popular opinion, medical tradition was opposed to the idea of contagion; though it was recognized that the disease attacked the privy members, it was not considered venereal. Mercurial inunctions had become an established remedy, but irrelevant considerations obscured its importance.

The following is a brief summary of the contents of the tractates.

1. KONRAD SCHELLIG: *In pustulas malas. Consilium.* Heidelberg, 1495/6. Schellig, who was body physician to Philip, Elector Palatine, accompanied him in 1495 to the Diet at Worms, which issued an edict against blasphemy; among the pestilences enumerated in it as sent in punishment of the vain use of the Divine Name was included the pest termed in German *bösen Blattern*, in Latin "Malum Francicum." Its recent diffusion seemed a new scourge of God; hence the Elector ordered Schellig to draw up a regimen to protect against the prevalent disease, but Schellig exhibits very slight acquaintance with the malady, and his prophylaxis was merely that current against pestilence in general, for which in the Middle Ages mercury was one of the drugs employed.

2 and 3. JOSEPH GRÜNPECK: *Tractatus de pestilentiali Scorra sive mala de Franzos.* Augsburg, 1496. Joseph Grünpeck of Burckhausen, a layman in physic, issued his tractate as a commentary upon Sebastian Brandt's verses on the *Mala de Franzos*, which had as a frontispiece a woodcut depicting the Virgin and Child; from the Child's hands streamed out barbed shafts that struck mankind, giving rise to ulcers and rashes. Grünpeck reproduced the woodcut but changed the avenging arrows into healing rays. He gave an astrological explanation of the disease, a sinister conjunction of Saturn and Jupiter, in the sign of the Scorpion, the sign of the zodiac which dominated the genital sphere. Grünpeck, in a second tract, at the age of 30, noted that he had himself contracted the disease. In discussing treatment he mentioned mercurial inunction.

4. NICOLÒ LEONICENO of Vicenza: *Libellus de Epidemia, quam vulgo morbum Gallicum vocant.* Venice, 1497. After a long preliminary digression Leoniceno in the later pages of his pamphlet dealt with the morbus Gallicus, which he held not to be a novel disease. The Hippocratic Aphorism (III, 21) had mentioned together ulcerations of the mouth and mortification of the privy members as among diseases occurring in summer. He opposed the indiscriminate resort to mercury, because its use repressed the eruption, which, according to the prevailing pathology, indicated the elimination of the materies morbi. Moreover, he said, mercurial inunctions did not benefit every case.

5. CASPARE TORRELLA of Valencia: *Tractatus cum Consiliis contra pudendagram seu morbum Gallicum.* Rome, 1497. Torrella, a Spaniard, became physician to Pope Alexander VI, and although his clientèle was restricted to the family of Borgia and the papal court, nevertheless, in the two months September and October, 1497, he claimed to have treated successfully seventeen cases, the Pope's son, Cesare Borgia, among them. He distinguished five types of the disease. At first he attributed it to the *flagellum Dei*, but subsequently believed it had a French origin. It would seem that as early as the fourteenth century in Southern France a distinction began to be established between syphilis, leprosy, eczema, and other chronic diseases of the skin. This may explain the origin of the name "Mal. Franzoso"; it was treated successfully by mercury.

6. JOHANNES WIDMANN: *De pustulis et morbo qui vulgo mal de franzos appelatur.* Rome, 1497. Widmann was a physician at Tübingen, where he was an inspector of lepers. His experience caused men to distinguish the morbus Gallicus from leprosy; in both alike he deemed the breath a source of contagion. Among the factors producing the disease he refused to admit either the Divine anger or the influence of the stars; his theory of its nature was based upon the doctrine of the four humours. For prevention he recommended the same measures which had long been in vogue for the prevention of leprosy. He employed two forms of mercurial ointment.

7. CORRADINO GILINO: *De morbo quem Gallicum nuncupant.* Ferrara, 1497. Gilino followed Galen and Avicenna; for treatment he used metallic mercury ointments to which some sublimate was added. Later the sublimate was restricted to washes and fomentations, but this practice was attacked by Paracelsus, who had learnt about the disease for the first time in 1496. He identified it with the *ignis persicus* of the ancients, and applied the actual cautery to the scalp over the coronal suture in order to stimulate the downflow of *pituita* from the under aspect of the brain into the nasopharynx, and so to eliminate the materies morbi.

8. BARTHOLOMAEUS STEBER of Vienna: *A Malafranzos, morbo Gallorum praeservatio ac cura.* Vienna, 1498. Steber gave an illustration of two patients, a woman with the physician at her bedside viewing her urine, and a man to whom a second practitioner is applying ointment on a spatula. Steber sought to differentiate syphilis by means of the rash, the *bösen Blattern*; other signs and symptoms he almost ignored. As to causation he discussed the influences of the humours and of the stars; for prophylaxis he repeated the general prescriptions given by Galen. Treatment by mercury he mentioned incidentally as though he had no great faith in it.

9. NATALE MONTESAURO of Verona: *De dispositionibus quas vulgares mal franzoso appellant.* 1498. Montesauro had a much better acquaintance with the disease, including the polymorphic character of the eruption; he was the first to mention the osteocopic pains, but he was sceptical as to the value of mercury, and knew of cases without primary affection of the genitalia.

10. ANTONIO SCANAROLI of Modena: *Disputatio de morbo Gallico.* Bologna, 1498. Scanaroli supported his teacher Leoniceno in opposition to Montesauro. He held that the disease was not passed by sexual intercourse, but arose in the sexual organs *de novo*; his evidence was its occurrence in virgins and in aged men past sexual life.

[1] Monumenta Medica. Under the general editorship of Henry E. Sigerist. Vol. III: *The Earliest Printed Literature on Syphilis, being ten tractates from the years 1495-1498.* In Complete Facsimile, with an Introduction and other Accessory Material by Karl Sudhoff; adapted by Charles Singer. Florence: R. Lier and Co.; London: D. Stanton. 1925. (Cr. 4to, pp. xlviii + 352; illustrated. £2 6s.; a special discount of 15 per cent. will be allowed by Messrs. D. Stanton.)

British Medical Journal.

SATURDAY, MAY 21ST, 1927.

BIOLOGY AND MEDICINE.

THE current issue of the JOURNAL includes a contribution by Dr. J. S. Haldane on the relationship between biology and medicine, which is of both practical and theoretical interest to the medical practitioner. "Health," he says, in his introduction, "is a normal condition which tends to be maintained apart from any conscious effort to maintain it," and a more concise and adequate definition, and one more rich in meaning, it would be difficult to formulate. The use of the term "maintain" is significant; it conveys the suggestion that health is the expression of an active process taking place within the organism, of a fundamental conative tendency, and thus gives it that dynamic quality which is the essence of Dr. Haldane's conception of unconscious life. He reiterates in this article the view which has been more fully developed in his other writings, that a mechanistic hypothesis is inadequate to account for the distinctive phenomena of life. He points out that in the case of life the structure, including its mass and composition, is actively maintained in a particular manner which we call "normal"; that the activity of the structure is of such a nature that the normal structure is maintained and developed; and that normal structure and normal activity are thus inseparable. Briefly, the living organism has to *do* in order to *be*. Furthermore, the organism must be continuously active if it is to maintain its existence, and thus the definition of sleep as "the resting time of consciousness" more or less accurately describes what happens in that state, for the organism itself can never sleep.

Another distinctive feature of the living organism, emphasized in the address, is that it functions as a whole. Modern medicine increasingly reveals the inadequacy of the idea of independent functions. The activities of organisms are no more sharply divisible into "functions" than are mental activities into "faculties." The body cannot be regarded as a series of isolated systems. From the behaviour of an isolated perfused kidney or lung, as Dr. Haldane observes, we gain little knowledge of the amazing delicacy with which the kidneys and lungs in an intact man or animal regulate the composition of the internal functions. Attention is, in fact, directed away from this regulation, whereas when the living body is intact experiments which are easily carried out in man reveal the regulation in the most striking manner. Thus no system has an independent function, and no organ or function is directly dependent upon any other organ or function, but, on the contrary, all reaction results from the collaboration of all organs. Furthermore, as is pointed out, the relation of the living organism to its environment is no less peculiar and specific than the relationship of the internal parts and activities of the organism itself. Between organism and environment a constant active exchange is going on. But this exchange is always determined in relation to the rest of the living activity of the organism. Whether material is to be taken up or given off, whether and to what extent the organism is to respond to any stimulus, all this is determined in relation to the life of the organism as a whole. The living body and its physiological environment form an organic whole, the parts of which cannot be fully understood in separation from one another. The activity of the living organism is necessarily affected by every physical agency which impinges upon it—atmospheric conditions, pressure, temperature, moisture, electrical states and disturbances, all these have an inevitable influence upon all the reactions and functions of the organism.

Thus since the living organism functions as a whole, Dr. Haldane insists that we should endeavour to study its reactions in the intact organism. This principle has an important bearing upon the problems of practical medicine, and that this is so becomes particularly evident when we endeavour to solve the obscure problems of psychiatry. We here refer to this branch of medicine because Dr. Haldane has recently expressed a view, which has been the subject of much discussion, that the real causes of illness in nervous disorders are physiological, and that these causes, when discovered, will give us an adequate theory of the so-called functional nervous disorders.[1] He suggests that these disorders only appear of a different nature from the ordinarily recognized organic nervous disorders because an inadequate and too mechanical view of physiology, especially that of the nervous system, is held; and that we should make our physiological explanations more general in terms of the entire organism, passing beyond the abstractions of the reflex arc. The validity of this view would seem to be strikingly exemplified in an investigation on the psycho-galvanic reaction in the subjects of hysteria by Dr. F. L. Golla.[2] This reaction is a reliable and exquisitely delicate method of demonstrating the existence of the physiological disturbances which are associated with affective or emotional states. In normal persons it is invariably elicited in response to nocuous stimuli, either physical or psychical. In hysterical subjects, however, Dr. Golla found that the galvanic response to similar stimuli was absent or sub-normal. Such patients would start or tremble and exhibit the external manifestations of fear at a loud noise or painful stimulus when a normal man would hardly budge, yet their galvanic response revealed an undisturbed state of the organism. Even when the hysteric was engaged in the exhibition of a severe crisis his organism remained in a state of perfect tranquillity. Thus a study of the physiological behaviour in these patients revealed the existence of an organic disability which does much to explain the clinical manifestations of the hysterical syndrome. It is therefore evident, as Dr. Haldane suggests, that if we are to gain an adequate knowledge of the cause of psychoneurotic illnesses, we must not confine our investigations to the activities of the patient himself, but we must also extend them to those of his organism.

Dr. Haldane describes life, with its essential co-ordination, as a constant, and under normal conditions successful, struggle with the essential chaos of what we interpret as a chemical and physical world, both within the organism and in the environment. That this is descriptive of the facts becomes evident when we consider the nature of the events which take place when life has departed from the organism. It ceases to maintain the erect posture and becomes subject to the law of gravity; it disintegrates into the inorganic, and how quickly this happens depends on purely fortuitous circumstances—the state of the

[1] Psychology and Biology. *Psychology and the Sciences.* London, 1925.
[2] *Proc. Roy. Soc. Med.*, vol. xvi, No. 4, February, 1923.

organism at the time of death, the temperature or humidity of the air, and the nature of the soil in which it is placed. The organism now exhibits a state of inertia instead of one of activity; and organic order is replaced by physical chaos. It is evident that the living organism must necessarily be engaged in a ceaseless struggle in order to maintain its existence in the face of conditions which, apart from the life within it, would reduce it to dust. A purely biological view of life thus tends to provoke a somewhat pessimistic attitude, because physics and chemistry must inevitably assume control of events sooner or later. Dr. Haldane has shown elsewhere,[3] however, that when we examine conscious activity or personality we find ourselves in the presence of an order of observations differing greatly from those with which biology deals, and it is only by so doing that we gain an adequate appreciation of the symptoms and meaning of life as a whole.

THE COMMUNITY CONTROL OF DIPHTHERIA.

IT was known long ago to the fathers of medicine that the appearance of membrane on the throat was ominous. "A web on the tonsil is not good" was the view expressed by Hippocrates, and Aretaeus refers to the exudate followed by dyspnoea from which the chief sufferers were children. The Arabs are mainly silent on the subject, but in the eleventh century, as Cedrenus narrates, a suffocative disease so raged in themes of the Empire that the living could not bury the dead. Baronius about the same period comments with pity on a similar outbreak in Rome. In the great Spanish epidemic, which culminated in 1613, called *año de los garrotillos*, Villa Real, who saw thousands of cases, observed with acuteness the signs of the malady, but had no sure way to relieve it. And modern physicians, however distinguished, up to near the close of last century, could do little to mitigate and nothing to stay the course of the diphtherial infection till, in 1890, the diphtheria antitoxin was introduced and medicine thus dowered with a specific remedy against the dreaded disease. The beneficent results of the new cure were not long in becoming manifest. The case mortality of diphtheria, which, prior to 1894, when antitoxin came into effective service, had stood at 30 per cent., fell in a few years to 10, and the hope was not unreasonably cherished by many that with the extended use of so apt a reagent the fall might continue unbroken and diphtheria in a few more years be relegated to the group of mild and little-regarded diseases which seldom terminate fatally.

Experience, however, has not wholly confirmed these sanguine anticipations. The case mortality, it is true, has continued to fall, but its rate of decline has slackened. In London, for example, over three seven-year periods between 1904 and 1924, as quoted in the report by Dr. J. Graham Forbes, analysed elsewhere in this issue (p. 925), the retarded rate of decline is represented by the unsubstantial difference between 8.88 per cent. for the first of the periods and 6.98 per cent. for the last. That an early fall should be followed by retardation was perhaps inevitable in the circumstances. In the earlier stages enlightened parents who were prompt to seek medical aid for their children, and well informed practitioners who, suspecting diphtheria, either administered antitoxin on suspicion or secured the immediate removal of the patient to hospital in order that antitoxin might be given, combined to produce the best condition for the remedial efficacy of antitoxin—that is to say, its application early in the course of illness. The competent medical staffs of isolation hospitals also, giving antitoxin in heroic doses and by the intravenous method where necessary, were able to save patients in an advanced and even desperate state whose lives would otherwise have been lost. Thus the knowledge of the new remedy spread most quickly among those who were best fitted to turn it to account, and the spectacular fall in the case mortality of diphtheria during the early years of antitoxin treatment is referred to its probable cause. There remains, however, an unhappy residue of shiftless or indifferent parents who do not notice when their children are ailing, and of dilatory practitioners who, before giving antitoxin, will await the fiat of a bacteriologist. These fail at the critical moment. Death still may strike through their feeble defence at neglected or mismanaged cases, and their lagging methods are in great measure responsible for the retarded rate of the decline of case mortality so notable at this juncture. Even in the possible presence of a recent increase in the actual virulence of diphtheria this statement appears to hold good.

Except for the discredit which naturally attaches to the occurrence of any death from diphtheria in a well governed modern city with a public health service, motor ambulance transport, and good isolation hospitals, it may be urged that a refractory remnant of case mortality is, after all, no great matter, that things are undoubtedly better than they were, and that, given time, the sluggards in the field may be brought into line at last. Time, however, cannot be given, for time fails. Both the attack rate and the death rate from diphtheria, as distinguished from the fall in its case mortality, have begun to display an upward tendency. The movement, as shown in Dr. Forbes's report, is most manifest among the greater cities, in a number of which either the attack rate or the death rate or both have risen in the last few years. Their relative weight varies as between city and city, but over the period of fifteen years ended 1925 London, Edinburgh, Portsmouth, and Bristol head the lists for both rates, although in different order. Diphtheria in Britain appears to be entering on a new and disquieting phase, and the cure of the sick by antitoxin treatment, under the limitations above described, may not suffice to control the mortality.

An appropriate instrument to avert the menace is fortunately ready to hand. The toxin-antitoxin prophylactic against diphtheria, first applied to children in New York City in 1914, has attained wide vogue in the United States, where the number immunized is now well over half a million. In Scotland, between 1921 and 1926, 16,324 children were immunized on a community basis, with or without a previous Schick test according to their age. For England and Wales the corresponding figure is 3,008. Of the Scottish people 1 in 175 has received active protection; of the English 1 in 4,560. In recent procedure the original toxin has been replaced by toxoid.

The community immunizations effected in this country are still too recent for harvest, but towns in the United States which have immunized their children, from New York and Chicago to Auburn and Utica, claim a definite fall in the diphtheria incidence. In British hospitals where the nurses have been

[3] *Mechanism, Life, and Personality.* London, 1921.

treated their diphtheria attack rate has been reduced or abolished. The method must be regarded as fully accredited, and in the face of an apparent rising prevalence of diphtheria the time has come for its wide adoption in England on a community basis. Two hundred children can be immunized at the cost of one case of diphtheria. It is needless to enlarge on the relief of suffering and the escape from death. "A web on the tonsil" is no better now than it was in the days of Hippocrates.

THE JUBILEE OF THE PHYSIOLOGICAL SOCIETY.

THE Physiological Society, at the end of last week, celebrated its jubilee by a dinner in London and a meeting in Cambridge. The selection of places was appropriate, for it was the physiologists of these two seats of learning and some of their friends who brought the Society into existence a little over fifty years ago. At the dinner, which was attended by a large number of members and a few guests, Sir Edward Sharpey-Shafer, who was in the chair, in responding to the toast of the Society, which had been given by Dr. Walter Elliot, M.P., related the circumstances that induced the physiologists fifty years ago to band themselves together. They were feeble in number, their laboratories small and imperfectly equipped, and their science hardly recognized as an independent department; but they were strong in faith, and strong in the support of a few among the leaders of science of the day, who, though not themselves engaged in physiology, were wide-minded enough to foresee that the study of the mechanism of life was an essential element in the advance of science as a whole; also at this time physiology was being attacked on the ground that its methods of research involved cruelty to animals; a Royal Commission had sat, and its report, it was known, would lead to legislation. It was felt, therefore, to be very necessary that any bill which might be introduced should be carefully examined. In March, 1876, an informal meeting was held at the house of Dr. (afterwards Sir) John Burdon-Sanderson, in London, to consider the situation. It was attended by nineteen persons, and it was there and then decided to form a physiological society, which should be limited in number and should be a sort of dining club. Invitations were issued to forty persons, and four of them survive—Sir David Ferrier, Sir W. Thiselton-Dyer, Sir E. Ray Lankester, and Sir E. Sharpey-Schafer himself. The first dinner was held at the Criterion Restaurant in London, when Sir Michael Foster was in the chair, and among those present was Sir William Bowman, showing that even at that early stage the Society welcomed the support of the physiologist turned clinician. The restriction of the number of members was shortly relaxed, and was for a time fixed at sixty, but later on it was very much extended, and the Society now contains over 400 members. At the jubilee dinner Sir Charles Sherrington gave the toast of the Society, coupling it with the names of Sir Ernest Rutherford, who had come to honour this offshoot of the Royal Society over which he now presides, Professor Fano of Rome, Professor Gley of Paris, and Viscount Knutsford, who had not only devoted his energies to the maintenance and extension of the London Hospital and its school, but had helped experimental physiology through the Research Defence Society. Sir Charles Sherrington mentioned also the help that had been given by the British Medical Association through its JOURNAL and in other ways, by the *Lancet*, by *Nature*, and by the Royal Society of Medicine, whose president, Sir James Berry, was present. Sir Ernest Rutherford, in a short speech, dwelt on the relation of physiology to physics, giving several instances, in particular, Einthoven's string galvanometer, in which a physical apparatus had been developed by a physiologist for a highly specialized purpose, but had afterwards been adopted in physical laboratories as a delicate recording device. Professor Fano and Professor Gley also replied; Lord Knutsford, in the course of his remarks, appealed to all physiologists to join the Research Defence Society, and to help it by supplying it with accurate information and by speaking for it when necessary in vindication of the importance of experiments on animals to medicine. The toast of "The chairman" was given by Dr. Leonard Hill, who recalled that he had himself worked as Sharpey scholar under Professor Schafer, and went on to make complimentary references to the physiologists trained by Professor Schafer, who had gone out to many schools in Great Britain, in Ireland, in Canada, South Africa, New Zealand, and Australia. On the following day a very largely attended meeting of the Society was held in Cambridge. Among the papers read was one by Professor A. N. Richards of Philadelphia on the elimination of phenolsulphonephthalein by the kidney, another by Professor J. G. Dusser de Barenne of Utrecht, on respiratory exchange during static and phasic work, and another, which was followed with deepest interest, in which Sir E. Sharpey-Schafer related the results of certain experiments made on his own person to investigate the recovery of sensation after severance of cutaneous nerves in man. On Sunday afternoon Professor and Mrs. Barcroft gave an afternoon party in the hall and Fellows' garden of King's College. We understand that Sir E. Sharpey-Schafer has prepared a history of the Society, which will shortly be published in the *Journal of Physiology*.

THE UNIVERSITY OF LONDON SITE.

IN the north-west corner of the excellent plan in Dobie's *History* of the United Parishes of St. Giles-in-the-Fields and St. George, Bloomsbury, published in 1829, we find the words, "The London University." This referred to the ground on which University College now stands, and it is only a furlong from the site on which the headquarters of the University of London are to be built, so that the prophecy implied by this plan may almost be fulfilled. That part of Bloomsbury which lies to the north of the British Museum and Bloomsbury Square is so modern that tradition and local history have hardly had time to form. When Dobie's plan was made Torrington Square was new. "Torrington Square," he said, "is also on the Duke of Bedford's estate, and is lately in a state of completion. It contains seventy houses of moderate size, and is so pleasantly situate on an elevated healthy spot, as to have been filled with occupants, as fast as it progressed in building." Woburn Square was then "a new square now forming, to be called Rothsay Square." Until the beginning of the last century open fields lay between the British Museum and what was then and long after the "New Road," and now Euston Road. These "fields behind Montagu House" were long notorious for duels. Smollett in *Roderick Random* and Thackeray in *Catherine* took some of their characters there to engage in single combat. At a part of the fields situated near the north-eastern corner of Torrington Square were the famous forty footsteps. The story runs that in the year 1685 two brothers quarrelled, fought, and both died at this spot. In the desperate struggle they made forty deep impressions of their feet in the soft ground, on which no grass or other thing would thereafter grow. Hence that field was called "The Field of the Forty Footsteps." For at least a century afterwards it was visited by curious persons, who generally came away well convinced of the truth of the story and of the genuine effects of the curse which had fallen on the scene of fratricide. The footsteps persisted until the ground was covered by buildings, but their exact situation is doubtful. J. T. Smith of the British

Museum, who died in 1833, in his *Book for a Rainy Day* wrote:

"The whole of the ground north from Capper's farm, at the back of the British Museum, so often mentioned as being frequented by duellists, was in irregular patches, many fields with turnstiles. The pipes of the New River Company were propped up in several parts to the height of six and eight feet, so that persons walked under them to gather watercresses, which grew in great abundance and perfection, or to visit the 'Brothers' Steps,' well known to the Londoners. Of these steps there are many traditionary stories; the one generally believed is, that two brothers were in love with a lady, who would not declare a preference for either, but coolly sat upon a bank to witness the termination of a duel, which proved fatal to both. The bank, it is said, on which she sat, and the footmarks of the brothers when pacing the ground, never produced grass again. The fact is that these steps were so often trodden that it was impossible for the grass to grow."

Smith's explanation was not generally accepted, and even the poet Southey supported the opinion of a writer in the *Gentleman's Magazine* in 1804 that "the Almighty has ordered it as a standing monument of his great displeasure of the horrid sin of duelling." In 1828 the then celebrated authoresses, Anna Maria and Jane Porter, made the story the theme of their novel *The Field of the Forty Footsteps*. A much older superstition connected with these fields is recorded by Aubrey in his *Miscellanies:*

"The last summer, on the day of St. John Baptist (1694), I accidentally was walking in the pasture behind Montague House; it was twelve o'clock. I saw there about two-and-twenty young women, most of them well habited, on their knees very busie, as if they had been weeding. I could not presently learn what the matter was; at last a young man told me that they were looking for a coal under the root of a plantain to put under their heads that night, and they should dream who would be their husbands. It was to be found that day and hour."

This was evidently a variant of one of the widespread superstitions of pre-Christian origin connected with Midsummer Day. Between what is now Torrington Square and Gower Street was the ground of the Royal Toxophilite Society, founded by Sir Ashton Lever in 1781, of which the Prince of Wales, afterwards George IV, was patron. Their earlier practice ground had been the lawn at the back of Leicester House. There is some medical interest in the story of the origin of Sir Ashton Lever's interest in archery. A friend, a Mr. Waring, who had acquired an affection of the chest which the doctors could not relieve, resolved to try the effect of archery. He was cured, and attributed his cure to the bow. This led to others taking up the exercise and to the foundation of the society. A number of well-to-do people were members, and dinners and suppers seem to have played an important part in their proceedings. The society removed in 1821 to a piece of ground of four acres in Bayswater, nearly opposite the present Victoria Gate, and later to the Regent's Park, whence it has only recently departed. Torrington Square is distinguished only by the antiquaries who lived there. The Rev. Joseph Hunter, a presbyterian divine, died at No. 30. He was an indefatigable archaeologist who began his inquiries into ecclesiastical monuments and such-like while a boy at school near Sheffield, and continued them throughout a long life, during which he produced a vast number of publications on various subjects; he died in 1861. No. 55 was the last English residence of Sir Nicholas Harris Nicolas, the editor of Nelson's dispatches and author of a *Chronology of History*. He had served in the Royal Navy for some years during the Napoleonic wars and carried into civil life some of the breeziness said to characterize that service. He did much to reform the Society of Antiquaries and the methods of the Keepers of the Records, but that malady of the purse, once described by Theodore Hook as "a tightness of the chest," drove him to seek refuge at Boulogne, where he died in 1848. Keppel Street, Keppel Mews, and most of Montague Place have been swept away in the improvements at the north of the Museum and the formation of the grand avenue of approach from nowhere in particular to the doors which are never opened; and No. 1, in which Constable, the painter, lived in 1817, has gone with the rest of Keppel Street. The London University is now to have a local habitation which will be worthy of it. If the traditions of the site are neither great nor many, the future will doubtless make up for the deficiency in past history of this part of Bloomsbury.

THE LISTER INSTITUTE.

THE governing body of the Lister Institute of Preventive Medicine presented its thirty-third annual report to the members at the general meeting held on May 18th. The report furnishes abundant evidence of great activity in all branches of research, but it is only possible in this place to refer to a few of the more important results recorded in the several departments. Dr. Arkwright has studied the properties of the two main kinds of antigen in the *coli* group of bacteria—namely, the heat-labile and the heat-stable types. Of the four variants of *B. paratyphosis* A studied, two, which grew as "smooth" colonies and afforded heat-stable antigen, have been found to be the more virulent and to make good protective vaccine for guinea-pigs. The two "rough" variants, which lack this antigen, are only feebly virulent and make relatively inefficient vaccine. The virulence and the value as a vaccine are, therefore, both related to the content of the heat-stable antigen. The results with *B. typhosus* vaccine were in the same direction but less distinct. The importance of securing a "smooth" virulent culture for making vaccine has not hitherto been realized. Dr. R. Robison has continued his studies on the phosphoric esters in the blood and the enzymes by which they are synthesized and hydrolysed. The synthetic power of the enzyme has been demonstrated, using inorganic phosphate and solutions of glycerol; and the hydrolysis of phosphoric esters has been shown to increase rapidly with increasing alkalinity. Experiments in calcification were made by passing a slow stream of solution containing calcium, inorganic phosphorus, and a small quantity of phosphoric ester over slices of rickety bone. A deposition of calcium phosphate takes place, which is roughly proportional to the concentration of the phosphoric ester in the solution; in the absence of the ester, calcification does not occur. Professor Korenchevsky has investigated the influence of thyroidectomy on the heat-regulating mechanism. After thyroidectomy, cooling causes a much more pronounced fall and warming a much smaller increase of temperature than in normal animals. The normal adjustment of the mechanism may be restored by thyroid feeding; but if the feeding is excessive the animal is severely handicapped when exposed to temperatures previously well supported, and the body temperature may rise to 43.5° C. It is concluded that the thyroid plays an important part in the regulation of the body temperature. In the department of protozoology Dr. Muriel Robertson has been occupied in the study of the para-basal body of flagellates, and Dr. H. M. Woodcock on encephalitis in rabbits and sarcocystic disease of the mouse. In the department for the study and preparation of antitoxic serums, F. Griffith, Mair, and Hedley Wright investigated an interesting case of pneumococcal endocarditis in the horse. The animal was being actively immunized against a Type I strain of pneumococcus which was highly virulent for the mouse, and its serum was strongly protective for mice against this virulent strain. It developed fatal pneumococcal endocarditis and septicaemia after a series of intravenous injections with living cultures. The strain recovered from the blood proved to be non-virulent for mice, and is regarded as a variant of the original virulent strain. The

factors involved in the genesis of this variety of endocarditis are not wholly understood, and their elucidation is likely to throw a good deal of light on the pathogeny of acute and chronic endocarditis in man. Dr. Maitland and Mrs. Burbury have continued to devote themselves to the work for the Foot and Mouth Research Committee of the Ministry of Agriculture; this has been carried on under the supervision of Dr. Arkwright on the same conditions as in 1925-26. Results of considerable importance have been obtained in the following directions: (1) it has been found possible to give a considerable degree of protection to guinea-pigs by a vaccine consisting of foot-and-mouth virus killed by formalin; (2) the influence of a variety of conditions upon the survival of the virus has been studied; (3) the virus has been found to remain active for many days in the bodies of dead guinea-pigs; (4) the rate of destruction by heating to different temperatures has been ascertained; (5) and the behaviour of the infection in rats and rabbits has been further studied. The disease was not found to pass naturally by contact, so that the significance of these animals as possible carriers seems to be small. Acting on a request from the Empire Marketing Board for advice as to the best means of preserving fruits, vegetables, and dairy products in order to retain their vitamins, the Institute has agreed to undertake an investigation on the subject. This will occupy five years, and it is to be carried out in the biochemical department under the supervision of Professor Harden. The National Collection of Type Cultures has been maintained, and the number of cultures distributed to applicants during the year remained at the previous high level of something over 4,000.

SUMMER DRINKS.

IN warm weather, when we have it in this country, many people resort to refreshing drinks flavoured with orange, lemon, and lime juice, and there are some houses where it is the practice to serve all the year round, last thing at night, a lemon drink, usually made with barley water. Moreover, there is at least one famous club in London where lemon barley water is always on tap. But all these are made at home. We have been asked by Dr. Harries of Aberystwyth for an analysis of such drinks, in order that medical men who prescribe them may know what they are recommending. All these fruits yield juices of one generic character, containing acids, sugars, and volatile oil or flavouring principle, together with mucilaginous and nitrogenous substances. The chief acid is citric, but malic acid may be present in smaller proportions. The sugars are cane sugar and invert sugar. The mucilaginous and nitrogenous substances have no individual qualities of a distinctive nature; they are related to the groups of which pectine and asparagine are types. The proportions of acid and sugar may vary in different specimens of the fruits, particularly in the orange; analytical tables do not, therefore, give a reliable indication of the composition of an untried fruit. For practical needs the fruits used may be classed as sour or sweet. The lemon, with about 8 per cent. of citric acid, 1.5 per cent. of invert sugar, and 0.5 per cent. of cane sugar, represents the extreme of the sour kind, while the orange, with about 1.5 per cent. of citric acid, 4 per cent. of invert sugar, and 5 per cent. of cane sugar, serves as a good example of the sweeter. Intermediate proportions of these constituents produce corresponding degrees of sweetness or sourness, but in their domestic preparation cane sugar is often added. Fruit juices keep badly, for they have a tendency to grow prolific crops of moulds, and with the exception of lime juice are therefore not usually prepared for storage. They are usually made fresh in the domestic kitchen. Lemon drink can be prepared by paring two lemons into a jug, adding the juice (and a little sugar if desired), and pouring on a pint of boiling water. Most of the refreshing drinks sold in shops and booths are not described by the vendors as simple fruit juices. Lime juice is, however, prepared for sale, and for it there is a considerable popular demand. Formerly it was usually preserved by the addition of salicylic acid, but the only preservatives now permitted are benzoic acid (600 parts per million) or sulphur dioxide (350 parts per million). By a regulation of the Board of Trade, lime juice must be carried for the crews of vessels making long voyages, to prevent scurvy. Valuable as these fruit juices are for the vitamins they contain, it hardly follows that they should be used by invalids on every occasion when a refreshing drink is desired; the orange, for instance, is believed to contain a principle, not hitherto isolated, which, it is said, tends to cause "biliousness."

DEATHS UNDER ANAESTHETICS.

DR. F. J. WALDO, coroner for the City of London and Southwark, has issued a supplement to his report for the year 1926, in which, among other matters, he refers especially to deaths under anaesthetics. The number of deaths due to, or accelerated by, the administration of anaesthetics was sixteen, an increase on previous years; seven of these were attributed to chloroform or a mixture containing chloroform, seven to ether, and two to nitrous oxide gas and oxygen. As recorded in the annual reports of the Registrar-General, the number of deaths from anaesthetics had doubled between 1911 and 1925. Dr. Waldo remarks on the increase in recent years of deaths accelerated by ether as compared with those from chloroform, and on the fact that since 1911 the number of deaths from ether had exceeded that from chloroform given alone. During the present year verdicts had been returned in seven cases, and in six expert opinion was unanimous that death was accelerated by ether. In Dr. Waldo's opinion the facts disclosed call for some action with a view to diminishing the risks from the administration of anaesthetics, and he makes the following suggestions: (1) That an analyst's certificate of purity should accompany all anaesthetic ether, and that the ether should be delivered to hospitals packed in small quantities in light-proof packings, in order to prevent the spontaneous formation of deleterious substances; (2) that the recommendation of the Home Office Departmental Committee on Coroners and Anaesthetics (1910) should be put into force—namely, (*a*) that notification to the coroner should be made compulsory by surgeons, anaesthetists, and others having knowledge of any death under the influence of an anaesthetic, whether in private, or nursing home, or medical institution, and (*b*) that a small research committee of experts, nominated by the Home Secretary and paid by the Treasury, should be appointed to co-operate with coroners in respect of inquests held on those dying under the influence of anaesthetics, and to investigate all matters —with a view to prevention—connected with anaesthetics. The framers of the Coroners (Amendment) Act, 1926, now coming into force, did not adopt these recommendations. It is possible that clause (*a*) of suggestion (2) may have been considered too wide, since it would seem to insist on the notification of almost every death under operation throughout the country, whether due to the anaesthetic or not. Similarly with regard to clause (*b*), which may have seemed to foreshadow less the taking of evidence in particular cases than the initiation of prophylactic research. Probably at no period has the scientific study of anaesthetics and anaesthesia been pursued with such assiduity as at the present time; but the subject is in the experimental stage, and there is still great diversity of opinion on important points, as there necessarily must be until

general principles are established. It may have been considered that the men at the front, if one may use the simile—the anaesthetists themselves in conjunction with the surgeons—are more competent to deal with the matter than a court. Dr. Waldo, however, has done a service in calling attention to the statistics.

MEDICAL MISSIONARY WORK IN UGANDA.

IN April, 1876, the Church Missionary Society sent its first party of missionaries to Uganda, and on May 14th, 1897, its first hospital opened its doors at Mengo, the native capital of Buganda, which had come under British influence seven years previously. The passage of fifty years of medical missionary work in an area extending over nearly 100,000 square miles has been celebrated by the publication of a commemorative volume. The hospital had twelve beds in 1897 and 210 in 1927, and with it are associated medical and maternity training schools and country maternity and child welfare centres. Careful clinical records were kept from the start, and the large number of cases of spear and bullet wounds indicates one difficulty of those early days, when two native rebellions threatened to extinguish the British influence. Dr. A. R. Cook, who opened the hospital, and is still directing it, was joined two years later by his brother, Dr. J. H. Cook, and they worked together in Uganda until 1920, when the latter returned to England. From the first periodical medical visits were paid to the surrounding country, and in this way the foundations were prepared for the establishment of daughter hospitals at Toro, 200 miles to the west, in 1903 and Ng'ora and Teso in the Eastern Province. Enlargement of the hospital at Mengo was soon found necessary and the new building was opened in 1900 by Sir Harry Johnston. Two years later it was struck by lightning and burnt down, but another hospital was quickly erected and still serves as the men's block. Various buildings were added gradually, including a new dispensary in 1905, constructed and stocked by Mr. H. S. Wellcome. The large block now used as the women's ward was opened in 1910 by Colonel Roosevelt, later President of the United States, and an *x*-ray apparatus was installed—the first in Central Africa. Two years afterwards a hospital for European patients was added, and in 1915 accommodation was provided for Indian and Goan patients. In the meantime branch dispensaries in country districts were opened and supervised. The war conditions of 1914-17 necessitated expansion of the institution to 530 beds at one time, since the Southern Uganda frontier bordered German East Africa, and the hospital at Mengo was the only one of any considerable size in the Protectorate. With the local close of the war in 1917 an active educational policy was adopted, which led to the foundation of medical and maternity training schools. In January, 1917, a medical training school was opened—the first in the Protectorate. There were seventeen entries, and three years later the first four students passed an examination for qualification. With the institution of the Government medical school at Makerere, near Mengo, the hospital school closed for a time, but was reopened in 1924. A maternity training school was founded in 1918 in temporary quarters, and the large Lady Coryndon maternity training school was opened in June, 1921; since then forty-two midwives have obtained the Government and C.M.B. certificates. In 1925 a large school at Nakifuma, in the centre of a population of about 45,000, was opened for the post-graduate training of the midwives before they were drafted to centres for independent work. Uganda was the first African dependency to initiate legislation for the control of midwifery, and its example has been followed in Kenya and the Belgian Congo. This necessarily brief account does but scant justice to an arresting record of the success which has followed patient and devoted medical treatment and education. The Church Missionary Society is to be congratulated on having produced such a valuable memorial of pioneer work in what can no longer be called "darkest Africa."

IMPURITIES IN ETHYLENE.

SOME of the difficulties that may attend the introduction into clinical practice of a new drug are shown in a recent report on ethylene by Sherman, Swindler, and McEllroy.[1] The occurrence of carbon monoxide poisoning as a sequel to ethylene anaesthesia led the authors to make a careful analysis of the brands of ethylene used for anaesthesia in Pittsburg hospitals. This analysis had the somewhat sensational result of showing that several samples of one brand of ethylene contained significant amounts of carbon monoxide, and that one sample actually contained from 1 to 2 per cent. of this gas, a concentration sufficient to produce death in from ten to fifteen minutes. The authors speak very highly of ethylene as an anaesthetic, and consider that there should be no special difficulty in its commercial production in a high degree of purity. Meanwhile, however, they have adopted the precaution of checking the purity of each individual cylinder of ethylene used for anaesthesia. For successful anaesthesia ethylene of a high degree of purity is essential. Apart from the obvious danger of such a highly toxic impurity as carbon monoxide, other impurities may increase the danger of explosion, and even the presence of water may give rise to trouble by its vapour causing the freezing of valves.

POST-GRADUATE TEACHING IN EPIDEMIOLOGY

A SPEAKER at the recent meeting, noticed last week, of the Section of Epidemiology and State Medicine of the Royal Society of Medicine commented on the fact that little provision is made for the teaching of epidemiology to medical students. It is, of course, obvious that the present curriculum, like the miller's ass, cannot be made to carry an additional load, but there clearly should be some provision for the post-graduates who wish to acquaint themselves with modern methods of inquiry in this field. As we announced recently, the London School of Hygiene and Tropical Medicine has already taken steps to meet the immediate needs of students of this class in the field of bacteriology. We understand that somewhat similar provision is to be made with respect to epidemiology and methods of investigation other than bacteriological. It is proposed that Professor Major Greenwood, who, it will be remembered, was appointed not long ago to the chair of epidemiology and vital statistics in the new school, should, pending the completion of the school buildings, carry out some of the duties of the chair in the statistical department of the National Institute of Medical Research, Hampstead. As at present arranged Professor Greenwood will receive small groups of post-graduates to work in his department on various problems, if possible those of particular interest to themselves, and so acquire practical knowledge of the usual methods of epidemiological and statistical investigation. There can be little doubt that for post-graduates the plan of frequent informal meetings at which, under the chairmanship of the teacher, workers discuss the problems upon which they are engaged, is a better method of instruction than didactic lectures, and this experiment deserves to succeed. "Refresher" courses for officers in the Public Health Service may also be held. Inquiries should be addressed to the Director of the London School of Hygiene and Tropical Medicine, 37, Torrington Square, W.C.1.

[1] *Journ. Amer. Med. Assoc.*, 88, 1228, 1927.

England and Wales.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of King Edward's Hospital Fund for London to receive the accounts and report for 1926 was held at St. James's Palace, on May 13th, when the President, H.R.H. the Prince of Wales, was in the chair. Lord Revelstoke, the treasurer, reported that the net receipts had exceeded the original estimate of the grants for the year by nearly £5,000; it had, therefore, only been necessary to withdraw £4,300 from the reserve account in order to maintain the ordinary annual distribution of £245,000. An additional £39,750 had been provided from the Wells legacies for schemes of extension and other special purposes, bringing the total amount derived from this source to £284,750. During the thirty years since the institution of the King's Fund in 1897 a total of over five and a half million pounds had been distributed. The Earl of Donoughmore, chairman of the management committee, in moving the adoption of the report of the General Council for 1926, said that the total receipts of the King's Fund for the year were £285,749. The League of Mercy and the British Charities Association had each contributed £15,000. The amount spent on administration was £10,440, the equivalent of about 8½d. in the £ on the total received. The revised uniform system of hospital accounts had come into operation and was now obligatory on all hospitals receiving grants from the three central funds. The new scheme for the provision of pensions for hospital officers and nurses had been adopted by eighty-nine hospitals in London, representing 11,639 beds, out of a total of about 14,500. Sir George Lawson Johnston, chairman of the revenue committee, presented the report of the propaganda committee, and stated that more than one hundred cinema managers in and around London had expressed their willingness to exhibit during 1927 the hospital film entitled "A hundred years of progress." In addition to propaganda on behalf of the King's Fund and the hospitals, various new schemes for obtaining money had been inaugurated. The Prince of Wales read a message of congratulation from the King on the success of the Fund during 1926, and dwelt on the importance of obtaining new money for hospital extension now that the Wells legacies and the funds received for this purpose from the joint committee of the British Red Cross Society and the Order of St. John of Jerusalem were almost exhausted. In view of the valuable results which had already been obtained he appealed for generous donations to meet the new requirements, which were already known. He added that he had appointed a special committee to report upon the question of hospital accommodation in London for paying patients; the chairman would be Lord Hambleden, and the committee would include two medical members, Sir John Rose Bradford, P.R.C.P., and Mr. Warren Low, and two lay members, Sir Bernard Mallet and Professor Winifred Cullis, D.Sc. The Prince referred to the retirement from the council of Sir William Church, who had joined the Fund in 1899, and from 1903 to 1918 had been chairman of the distribution committee, succeeding the first chairman, Lord Lister, who was an original member of the council.

LEICESTER MEDICAL SOCIETY POST-GRADUATE LECTURES.

A course of five post-graduate lectures on the bearing of recent physiological discoveries on clinical practice was given at the Royal Infirmary, Leicester, during April and May, by Professor R. J. S. McDowall, at the invitation of the Leicester Medical Society, in conjunction with Leicester University College. The subjects treated were digestion, with special reference to gastric disease; surgical shock and its prevention; the rate of the heart beat and its significance in disease; high blood pressure in health and disease; and breathlessness. This course—the eighth of the kind—was unusual in that the lectures were given by a physiologist and not by a clinician, as in previous years. The experiment proved very successful, each lecture being attended by over fifty medical practitioners.

CENTRAL MIDWIVES BOARD.

The Central Midwives Board for England and Wales held a penal session and an ordinary meeting on May 5th.

The Board considered two letters from the county medical officer of health for Durham. To the one it replied as follows:

1. That under Rule F.1 it is the duty of a local supervising authority to suspend a midwife from practice whenever suspension is necessary for the purpose of preventing the spread of infection, and that whenever a midwife is suspended under Rule F.1 the provisions of Rule F.2 apply.
2. That the local supervising authority's duty is to prescribe the mode of disinfection (probably by a standing order), and to satisfy itself that adequate disinfection has been carried out before the midwife is allowed to return to work.

That no real delay need take place if proper arrangements are made.

In reply to the other it stated that the local supervising authority is at liberty to add any appendix to the approved form of keeping ante-natal notes, but that the Board's form must be kept intact.

A letter was read from the Ministry of Health as to the Board's resolution with regard to the scale of fees prescribed by the Minister under Section 14 of the Midwives Act, 1918; it drew attention to the correspondence and interviews which took place between the Minister and the Board when the revised scale of fees was under consideration. The Minister did not think it practicable to consider any alteration of the scale of fees in the manner suggested by the Board unless the Board was prepared to define the conditions to be regarded as emergencies for the purpose of Section 14 of the Midwives Act, 1918. Hitherto no case had been brought to the notice of the Minister in which a local supervising authority had received a claim from a doctor in respect of attendance after the expiration of four weeks from the date of confinement. The Board decided to take no further action.

Scotland.

GLASGOW POST-GRADUATE MEDICAL COURSES.

DURING the summer and autumn months various clinical courses will be held under the auspices of the Glasgow Post-Graduate Medical Association. Beginning on August 15th, a whole-time general medical and surgical course will be conducted for a month; the mornings will be devoted to general medicine, surgical diagnosis, and minor surgery in the Western Infirmary and Royal Infirmary, while each afternoon various subjects will be dealt with in the special hospitals of the city. On the four Saturday mornings there will be demonstrations on tuberculosis and the infectious fevers at Ruchill Fever Hospital. A morning course in clinical surgery will be arranged at the Royal Infirmary during June and July. The Western Infirmary will hold classes during the same two months in clinical gynaecology and dermatology, and courses, each lasting a month, will commence on September 13th in radiology, diseases of the throat and nose, and venereal diseases. From July to October classes for the study of the medical and surgical diseases of children will be arranged at the Royal Hospital for Sick Children. Beginning on September 12th, a month's course in clinical obstetrics will be held at the Royal Maternity Hospital, and a course in clinical gynaecology at the Royal Samaritan Hospital for Women. A series of demonstrations on diseases of the throat, nose, and ear will be conducted at the Ear, Nose, and Throat Hospital for a month, commencing on September 13th, if at least eight graduates enrol. Clinical assistantships are available at the Royal Infirmary, Western Infirmary, Royal Hospital for Sick Children, the Royal Mental Hospital, Glasgow Eye Infirmary, the Royal Maternity and Women's Hospital, the Royal Samaritan Hospital for Women, and the Ear, Nose, and Throat Hospital. Further information may be obtained from the secretary of the Post-Graduate Medical Association, the University, Glasgow.

HEALTH ENTERPRISE IN ABERDEEN.

The annual report on the City of Aberdeen for 1925, by Dr. J. P. Kinloch, medical officer of health, records investigations made by officers of the public health department into the immunology of scarlet fever and diphtheria, and describes how the data so ascertained are being turned to practical uses. With regard to scarlet fever, haemolytic streptococci were obtained from the throats of almost all cases during the initial stages, and the view is expressed that the same type of streptococcus may, according to circumstances, originate scarlet fever, tonsillitis, erysipelas, puerperal fever, or bronchopneumonia. Among children submitted to the Dick test in the age period 0-5 years, 96 per cent. gave a positive reaction. Among children of school age the positive rate was 78 per cent. in the west end of the city and 29 per cent. in the east. The active immunization of the staff of the City Fever Hospital reduced the incidence of scarlet fever among nurses to zero, as contrasted with a previous annual case rate of 9.5 per cent., an event which Dr. Kinloch justly claims, in the meantime, as very encouraging. Coincidently, however, with the disappearance of scarlet fever, streptococcal tonsillitis has increased among the nurses. *Naturam expellas furca, tamen usque recurret*, apparently even in Aberdeen! In order to prevent return cases of scarlet fever the remaining susceptible children in households have been immunized with good results. In testing the toxin employed for these purposes it was observed that the whole syndrome of scarlet fever, including inflammation of the fauces, the condition of the tongue, the punctate erythema, and the subsequent desquamation, may be called up by injection of the toxin alone. This result cannot be ascribed to the presence of a live filter-passing virus since it ensues equally after the filtrate has been heated to 55° C. for one hour. The task of preparing a scarlet fever toxoid for use in lieu of the toxin is at present engaging attention. As regards diphtheria, the active immunization of the City Hospital nursing staff has reduced the annual case rate from 11 to 1.6 per cent. Active immunization is not applicable in diphtheria, as in scarlet fever, to the prevention of return cases, since immunity takes about six months to develop: passive immunization is advised instead. The concurrent active immunization of children in the city against both scarlet fever and diphtheria by means of a combined prophylactic is being carried out on a community basis. This is a pioneer enterprise. The administrative and other procedures involved are set forth in the report, which treats, in addition, of the photometry of therapeutic lamps, the sunlight and lamp treatment of pulmonary and extrapulmonary tuberculosis, the causation of rickets, an outbreak of milk-borne Gaertner enteritis, the occurrence of paratyphoid and Aertrycke enteritis, and Sonne dysentery. Reference is made also to the progress of the new waterworks under the Aberdeen Water Act of 1916. Owing to interference with the existing city supply, described as inevitable in course of construction, the bacterial quality of the water distributed to consumers was in 1925 definitely below the standards of the two previous years.

GLASGOW UNIVERSITY ARRANGEMENTS.

At a meeting of the University Court of Glasgow University on May 12th it was announced that Professor Harvey Cushing of Harvard University, Boston, U.S.A., would deliver the first Macewen memorial lecture in Glasgow University on June 21st, when the honorary degree of LL.D. would at the same time be conferred upon him. Permission was given to transfer five glass flasks, that had been used by Lord Lister in some of his experiments, from the physiological department, where they have been preserved, to the permanent keeping of the Hunterian Museum, Glasgow. Several gifts were also intimated. Lord and Lady Maclay had announced their intention to present an organ for the University Chapel at a cost of between £5,000 and £6,000. The late Mr. J. Murray Smith had directed his trustees to convey his house at 11, Bute Gardens, Hillhead, to the University of Glasgow, to be used as a professorial residence. Both these gifts were gratefully accepted. The Court, in a report on the Hunterian Museum for the year 1925-26 stated that the new museum building for the zoological collection was proving admirably suited to its purpose. An important cabinet of British molluscs collected during many years from the west coast of Scotland, had been presented by Dr. Frank Knight. The collection in the geological section had been considerably augmented by donations, and in the archaeological section purchases had been made of a complete collection of casts of the skulls of Paleolithic man. Additions had also been made to the collection of coins, some of which were of great rarity.

POSTURAL APNOEA.

At a meeting of the Royal Society of Edinburgh on May 9th, Professor D. Noel Paton read a paper upon "Submergence and postural apnoea in the swan." It had, he said, been shown in 1922 that in the duck the stoppage of breathing that took place when the bird was feeding under water was not dependent upon the higher brain, but was a simple reflex action that could be brought about without immersion by putting the duck into the tail-up position; it was induced partly by the position of the head and partly by the extension of the neck. By a series of experiments upon the uninjured swan it had been shown that the stoppage of breathing was largely due to posture, and that both the position of the head and the extension of the neck were responsible for this, for by putting the swan in the feeding position out of water stoppage of breathing was produced.

SCOTLAND'S POSITION IN PUBLIC HEALTH.

An address was delivered, on May 3rd, by Colonel P. S. Lelean, professor of public health in the University of Edinburgh, to the Edinburgh Women Citizen's Association in the Usher Institute of Public Health. Professor Lelean referred to the importance of nutrition in building up the national health, and quoted figures to show that the general state of public health in England was more satisfactory than that in Scotland. The death rate in the former country was 12.2 as against 17 in Scotland, and the rejections of recruits for the army were in the proportion of 36 per cent. as against 43 per cent. Evidence also came from the United States, where the Englishman was placed at the head of the list of satisfactory immigrants, while the Scotsman was fifth or sixth, and came below the German. He next discussed the ill effects upon later generations of the mating of the half-witted, and went so far as to say that if this were allowed to proceed at its present rate the healthy mental stock of to-day would be swamped out in about four generations. What was specially needed at the present day was concentration upon the welfare of the children. This generation ought to live healthy lives itself, and its mothers should know how to bring up their children. Among the thirty-seven subjects which could be learned on request at secondary schools, health was not even mentioned. No particular instruction was given in schools regarding cookery, and yet unless decent cooking could be got into the homes of the working classes, and unless women could be taught how to buy to the best advantage the foods that were available, there would be no radical improvement in the C3 generation of our time.

ANNUAL MEETING OF THE BRITISH ASSOCIATION.

A meeting of representatives of public bodies and scientific societies of Glasgow was held in the City Chambers, Glasgow, on May 10th, to make preliminary arrangements for the meeting of the British Association for the Advancement of Science, which is to be held in Glasgow in September, 1928. Lord Provost Mason presided, and various committees and office bearers were appointed. It was mentioned that the average attendance at meetings of the association held in Scotland was greater than the average in any part of England or elsewhere, and that this larger attendance indicated a greater interest in scientific matters, so that the association was living up to one of its principal objects of being "the mouthpiece of science to the public."

EXAMINATION OF MIDWIVES.

At the recent examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Aberdeen, and Dundee, out of 118 candidates 106 passed. Of the successful candidates, 24 were trained at the Royal Maternity Hospital, Edinburgh, 44 at the Royal Maternity Hospital, Glasgow, 4 at the Maternity Hospital, Aberdeen, 7 at the Maternity Hospital, Dundee, 8 at the Queen Victoria Jubilee Institute, Edinburgh, and the remainder at various recognized institutions.

EXPENDITURE ON SCOTTISH UNIVERSITIES.

The University Grants Committee in its report for 1925-26 gives statistics relating to the universities of Edinburgh, Aberdeen, Glasgow, and St. Andrews (including Dundee University College), and the Glasgow Royal Technical College. The items of income are as follows: endowments, £132,082; donations and subscriptions, £12,798; grants from local authorities, £40,179; parliamentary grants from the Treasury, £264,500, and from other Government departments, £19,919; class fees, £194,303; examination fees, £64,844; other income, £3,090; making a total income of £739,375. The items of expenditure are as follows: administration, £55,449; salaries and departmental maintenance, £433,230; laboratory maintenance, £60,841; library maintenance, £33,690; maintenance of premises, £97,081; and other expenditure, £58,790; making a total expenditure of £739,981.

Ireland.

MEDICAL REGISTRATION IN THE FREE STATE.

THE Medical Practitioners Bill, referred to in some detail last week (p. 896) has passed through all its stages in the Dail. An amendment moved by Sir James Craig, T.D. (Dublin University), that the Royal College of Surgeons in Ireland and the Royal College of Physicians of Ireland should each have one member on the Medical Registration Council, was accepted by Mr. McGilligan, the Minister in charge of the bill. In the bill, as introduced, the Royal Colleges were allotted only one member, who was to be nominated jointly by these bodies. An amendment by Dr. Hennessy, T.D. (Dublin City), providing that in the event of a casual vacancy occurring in the membership of the council of a direct representative, it should be filled by the resident medical practitioners in the Free State instead of the council co-opting a member to fill the vacancy, was also accepted by the Minister. With the exception of these two amendments, and another increasing the nominations of the Executive Council to two, the bill was passed substantially as introduced and as an agreed measure.

THE DENTISTS BILL.

The Dentists Bill, which has passed its first reading, follows closely on the lines of the British Act of 1921. There is, however, for the Irish Free State, a Dental Board of nine members, elected for four years, composed as follows:

(*a*) One nominated by the Executive Council.
(*b*) Three by the Medical Council.
(*c*) One by persons registered under Section 3, Dentists Act, 1921.
(*d*) Four by persons other than those registered under the latter section.

There shall be registered:

(*a*) Persons registered before the passing of this Act and resident in the Saorstat.
(*b*) Persons registered and living outside the Saorstat who apply for registration.

After the passing of the Act:

(*a*) Persons possessing a degree or licence conferred with authority.

The Saorstat Board is to have the same disciplinary control over dentists as the Medical Council will have over medical practitioners, and it will be exercised in the same way. It is proposed to give legal effect to an agreement signed on behalf of the Saorstat, Great Britain, and Northern Ireland. Under it the appointments made heretofore by the Lord Lieutenant for all Ireland will only apply to Northern Ireland, but the tenure of office of any member of the existing Board will not be affected. The Board may, by special direction on account of special circumstances, register any person who, in the opinion of the Board, has received training and possesses qualifications not inferior to the standard of training and qualifications necessary for obtaining the right to be registered. This section, it is understood, is intended to deal with cases in which there might have been a conscientious objection to go on the British *Register* in 1921, and to meet the case of a person who may have been serving with the volunteers in Ireland. Non-registered persons practising dentistry after the passing of this Act will render themselves liable to prosecution, and, if convicted, to a minimum fine of £50. Under the bill reciprocity with Great Britain and Northern Ireland will operate as in the case of the Medical Bill. The *Register* of 1921 would not be reopened, and any unqualified man who began to practise dentistry here since 1921 could not be registered, and would, therefore, unless he became qualified, have to discontinue. It would also eliminate for the future unqualified men.

India.

KASHMIR HOSPITALS.

DURING 1926 the work of the Kashmir Hospital of the Church Missionary Society continued to increase, the out-patients exceeding those of the previous year by over 4,000, while 1,983 were admitted as in-patients. In his annual report Dr. E. F. Neve, the medical superintendent, states that 1,104 operations were performed under local anaesthesia, and that a general anaesthetic was administered on 1,879 occasions. In Kashmir chloroform, given by the open method, is found very satisfactory, struggling in the second stage being almost unknown, except in the case of patients who have been in the habit of taking alcohol or Indian hemp. The staple antiseptic used is hypochlorite solution, prepared electrolytically in the hospital. Cancer is rare in Kashmir, but may, it is thought, be increasing. There were forty-eight cases of kangri-burn cancer, and Dr. Neve finds it difficult to reconcile the results of the investigations of Gye and Barnard with his clinical experience in Kashmir. Major eye operations numbered 310, and of the minor kinds 477 operations were performed for entropion and trichiasis, and 117 for cataract with no panophthalmitis or complete failure. Tuberculous and osteomyelitic bone disease was common, but appendicitis was rare. Enlargement of the prostate was almost unknown among Hindus, and uncommon in Mohammedans. Digestive disorders were increasing, owing to the excessive consumption of rice. The Kashmir State Leper Hospital, of which Dr. Neve is also honorary superintendent, dealt with 229 patients during 1926, of whom 179 were males. The prevalence of eye complications proved a serious obstacle to successful treatment, the most serious affection being the sclero-corneal tubercle, which advances across the anterior chamber, infiltrating the iris, and causing occlusion of the pupil. Dr. Neve adds that, though in more than thirty years in this hospital there has been no case of communication of leprosy from a patient to any of the staff, or from husband to wife, yet the children of leper patients manifest a diminished tissue resistance which seems to make them more prone to contract the disease.

GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS.

In his report for 1926 Lieut.-Colonel R. E. Wright, I.M.S., superintendent of the Government Ophthalmic Hospital, Madras, states that there has been an increase in the total number of cataract operations performed at the hospital. The iris prolapse rate was rather over 8 per cent., but the vitreous escape rate in straightforward cases remained about the previous level—namely, 1.46 per cent. Late formation of the anterior chamber was another troublesome post-operative complication, and occurred in nearly 3 per cent. of the cases, including those where the chamber at first formed subsequently emptied. Better dilatation

of the pupil was secured by the use of adrenaline along with atropine prior to operation. Preliminary iridectomy was employed in a large number of cases, in order to minimize the risk of operating on eyes predisposed to glaucoma and other complications. Blocking of the facial nerve at the stylo-mastoid foramen was a routine procedure in the preparation of difficult patients for cataract extraction, and intraorbital anaesthesia with novocain and adrenaline was used in the case of painful eyes before iridectomy or other operations for glaucoma. Colonel Wright believes that it is very disadvantageous to leave blood in the anterior chamber, since fibrin appears to form a scaffolding for the building up of cellular elements. The danger of introducing organisms into the anterior chamber at the time of operation was demonstrated by special bacteriological investigations. In over 45 per cent. of the cases the field of operation harboured organisms, the majority of which were staphylococci. A Gram-negative coccobacillus was found in cultures from the iris, but it was not detected in the conjunctival field. In the out-patient department the chief affections dealt with were catarrhal conjunctivitis, inflammation due to the Koch-Weeks bacillus, trachoma, and phlyctenular and angular conjunctivitis. During the year training was given at the hospital to 187 medical students, 28 post-graduates, and 5 members of the Madras Medical Service, who attended for special tuition. A special certificate in ophthalmology is given to post-graduates who undergo nine months' training at the hospital and satisfy the examiners of their proficiency.

SIR NORMAN WALKER'S VISIT TO DELHI.

The Delhi Medical Association entertained at dinner, on February 17th, Sir Norman Walker, who was visiting that city in the course of his tour in India as a representative of the General Medical Council. Before the dinner Sir Norman Walker delivered an address in which he dealt at length with the etiology and treatment of various forms of skin irritation and pruritus. He also described the functions and powers of the General Medical Council, with special reference to its relation with universities. A short discussion followed on the question of the establishment of an Indian Medical Council.

THE PASTEUR INSTITUTE, CALCUTTA.

The Pasteur Institute in Calcutta was opened in 1924, and during the seven months of its active work in that year 1,995 patients were dealt with. The annual report of the institute for 1925 has now been received, and the superintendent, Lieutenant E. C. R. Fox, I.M.S., states that 5,585 patients attended, a considerable number having come from the province of Bihar and Orissa, as well as from Bengal. The number of patients who completed a course of prophylactic treatment for rabies was 4,168; of these 247 were Europeans and Anglo-Indians, and 3,921 Indians, 33 of whom developed hydrophobia. In 17 of these 33 cases symptoms of hydrophobia supervened more than fifteen days after completion of the prophylactic treatment, and must be considered failures. In the remaining 16 cases the disease developed before the treatment could be considered effective, and so are not included in the failure rate, which was 0.41 per cent., as compared with 0.48 per cent. in the previous year. More than half the Europeans who were dealt with had not been bitten, but only licked by the rabid animals, whereas 98.8 per cent. of the Indians had been bitten; similarly only 17 per cent. of the Europeans had deep bites, as compared with 46 per cent. of the Indians. While 82 per cent. of Europeans arrived within the first week of possible infection only 63 per cent. Indians received such early treatment; no treated European died of hydrophobia. In 26 per cent. of the total cases jackals were the rabid animals, the hydrophobia rate from them being 1.5 per cent., as compared with 0.6 per cent. for dogs; no Europeans, but 33 per cent. of the Indians, were bitten by jackals. During 1925 the work of the institute was carried on under difficulties in one room of the School of Tropical Medicine. An increase in the staff has been under consideration, as the institute has passed from the experimental stage, and its value is appreciated by all classes of the population.

Correspondence.

RHEUMATIC INFECTION IN CHILDREN.

SIR,—The several letters which have appeared in your issues of May 7th and 14th on the work of the Science Committee's Subcommittee on Rheumatic Heart Disease in Children appear to need some comment from one knowing the mind of the subcommittee.

Professor Leonard Findlay stands, I think, in the honoured position of having been the first in Great Britain to open a special hospital department for the treatment of rheumatic children. Not unnaturally he disagrees with the subcommittee's conclusion that it is a mistake to include routine treatment in such special clinics, and thus to keep all cardio-rheumatic cases entirely separate from the general work of the hospital. I can assure Professor Findlay that the Glasgow plan was most carefully considered by the subcommittee, but that a scheme undertaking supervision only and referring all treatment to the appropriate departments of the hospital was preferred as better and more immediately practicable. For this decision there were several reasons. (1) The plan of a special treatment clinic would not be generally acceptable to the staffs of voluntary hospitals, especially those teaching pediatrics. Already such teachers have lost from their clinics infectious diseases, and no small proportion of cases of tuberculosis, venereal diseases, and feeding difficulties: the subcommittee had no desire to ask them to submit to the loss of rheumatic and cardiac cases also. (2) Were such a scheme accepted by the voluntary hospitals, it would be to the disadvantage of ordinary students and thus ultimately of the rheumatic child. (3) Were it not accepted by them, and yet were held up by the subcommittee as the ideal procedure, there might be a tendency for such clinics to be set up in association with dispensaries, welfare and minor ailment centres, and other places all divorced from the facilities of a hospital for seeing a child through every phase of its illness. This is, of course, the very plan the subcommittee desired to deprecate. I will only add that in a supervisory centre from which patients can be admitted direct to the wards, referred to special departments or back to their own physicians, emergency treatment being given in the meantime, the patients lack nothing; and there is no need for Professor Findlay to be "inclined to consider the scheme futile."

The subcommittee did not consider such matters as the classification of cases attending rheumatism centres on which Dr. Margaret Lowenfeld lays such stress. I find it difficult to agree with her view on this point, and have never felt much enthusiasm personally for the classification adopted by her, either in principle or in detail; and there I am afraid I must leave the matter.

For Dr. Halls Dally to state that the significance of the "quiescent stage" in juvenile rheumatism was not recognized until May, 1926, gives me such a shock as to excuse me from disputing the point with him.

The letters of Dr. L. Thorne Thorne and of Dr. Eva McCall, who "differs" from him, raise the important question of the influence of compulsory school attendance on the production of rheumatism. Taking proverbial risks, I venture to agree with both disputants. The subject is not an easy one, but it seems clear that exposure to bad weather in going to and from school cannot be a factor of great importance in originating the disease in children, as the disease is much more common in industrial towns, where distances are short, than in rural areas, where they are longer. Yet there cannot be the slightest doubt that such exposure is bad for rheumatic children, tending to increase the severity of the infection and thus to produce heart disease. It is the old difficulty of what factors produce, and what merely unmask and increase, rheumatism. It was along these lines that the subcommittee thought the truth of the matter would be reached.

Dr. J. S. Pearse, under the title of "Damp buildings" (May 14th), asks for details of how the figures on damp houses were collected for the subcommittee's first report. The housing of rheumatic children was examined in London,

Bristol, Bath, and Birmingham by different investigators, all using, however, the same questionary. In nearly all cases the houses were visited: in some places by the medical officers, in others by sanitary inspectors, health visitors, or lay workers. The questions asked are given in the first report, and, roughly speaking, it was our endeavour to count as damp such houses as would appear damp to an intelligent layman rather than to abide entirely by the decision of the responsible sanitary inspector. Further experience of such investigations has taught me that, if the right questions are asked in the right manner, there is little difficulty in getting the truth from the inhabitants. Recent figures collected at the Supervisory Centre at Paddington Green Children's Hospital, where parents are questioned and afterwards visited, show a very small percentage of error, well under 5 per cent. I do not think that architects would approve of Dr. Pearse's view of the lack of significance in the presence of condensation-damp in a house, for, as I understand it, they regard this as a bad fault; and surely where such damp is persistent this view is not unreasonable. I know of no definite figures showing that the rheumatic diathesis is "inimical to tuberculosis," though such a view has often been expressed and is largely accepted.—I am, etc.,

London, W.1, May 14th. REGINALD MILLER.

SIR,—As an assistant school medical officer of some years' experience I cannot agree with Dr. Eva McCall's criticism (May 14th, p. 898) of Dr. Leslie Thorne Thorne's view that the present system of school attendance may be a factor in the production of rheumatic infection in children.

At school the child suffering with a slight chill cited by her is quite commonly sitting at a desk with damp feet in an inadequately warmed and ventilated room—a danger to himself and a source of infection to his classmates. But, however wretched the home, it is indeed rare that there is no fire at which he can warm and dry himself, no hearth-rug on which he can rest his aching limbs, and no relative or neighbour at hand with resource enough to give him a warm drink.

In the majority of elementary schools I have visited there is no provision for drying the feet, and I have often found wet coats piled promiscuously together in the cloak-room.

For these reasons, when discussing the wet shoes of infants arriving in school through a snow thaw, I have advised their dismissal, but only secured that the obviously wet through were sent home.

Change of footwear, drying rooms for clothes, and a sick-room should be regarded as necessities in schools under the present system of compulsory attendance. Moreover, the substitution for attendance officers of nurses instructed to investigate a temporary ailment rather than to demand a medical certificate would, in my opinion, prevent many a catastrophic illness and promote the peace of mind of harassed parents "afraid of a summons."—I am, etc.,

MARION BURT, M.B., B.S., D.P.H.

Birmingham, May 14th.

SIR,—Much has been, and is being, done in regard to the prevention and treatment of rheumatic infection in children. There is one matter, however, which, I hope, will not be overlooked, or its gravity underestimated—namely, the part played by defective drainage and infected reflux air; this especially when damp ground-floor dwellings are suspect.

B. coli communis and streptococci are commonly present in sewer air, and puerperal fever—a pure septicaemia—has, in many instances, been traced to faulty drains. Inhalation of such air can seriously affect health. Headache, sickness, sore throat, and anaemia are results well known to occur from poisoning by the inhalation and adsorption of infected emanations from drains.

No drainage system can be perfect. Traps, joints, and ventilators are easily liable to go wrong; they may leak and become readily forced by sewer gas, yet nobody dares think of investigating the efficiency of his house-drains until they compel him to.

For long it has been my custom in cases of sore throat of any kind, whether in child or adult, to advise the weekly cleansing of all house-drains by flushing with chlorinated lime in hot water. There is no cheaper or better deodorant and disinfectant for the purpose. The lime and hot water are simply run down each drain at night once a week, and left in the drains all night, then run off in the morning. I am quite convinced of the value of such an attempt at disinfection, and of its real necessity in the prevention of sore throat and rheumatism in children.—I am, etc.,

Bournemouth, May 14th. S. WATSON SMITH.

THE CONSTITUTIONAL FACTOR IN DISEASE.

SIR,—Dr. A. F. Hurst, in the instalment of his address on the constitutional factor in disease published on May 7th, raises some interesting points in connexion with the family incidence of nephritis, and also with regard to the possible prevention of recurrences in persons who have previously suffered from the disease. It is perhaps not generally recognized that the family incidence of nephritis is comparatively high. In a series of 69 cases of all types seen recently in which this question was carefully investigated, a history of the disease occurring in other members of the family was obtained in 19 instances, or 27.55 per cent. In a further series of 180 cases admitted to the wards of Guy's Hospital during the years 1921 to 1924 inclusive, a "positive" family history was obtained in 20 cases, or 11 per cent. In this series the point was probably not specifically asked for when writing up the case history in the majority of instances. In one family of 13 members of three generations 6, and possibly 7, persons had nephritis. The family quoted by Dr. Hurst must, however, be unique in the large number of members affected. Instances of acute nephritis occurring in more than one person in a family at the same time are occasionally seen, and are generally influenzal or streptococcal in origin.

Dr. Hurst also inquires whether the liability to develop nephritis in certain families depends upon a familial tendency to excessive acidity of the urine. This question is at present being investigated. There is some evidence to suggest that some such factor is present, but the problem is very complicated, and further work is needed.

Lastly, Dr. Hurst suggests that all individuals who have once had nephritis, but who have recovered therefrom, should take alkalis constantly in order to prevent recurrences. The work quoted by Dr. Hurst on scarlatinal nephritis indicates that such a procedure may be of use. It will be necessary, however, to do something more than render the urine permanently alkaline. The term "alkaline" is too vague. Dr. H. Carter and I found that by maintaining the urine (early morning specimen) at a *p*H of 7.7 throughout the illness in a large series of scarlet fever cases the incidence of nephritis and albuminuria was reduced from 5.5 per cent. in the controls to 0.6 per cent. If the alkalinity of the urine had been maintained at a higher point would the incidence of these complications have been still further reduced? At present we can only say that acute nephritis developing in a person whose urine is made more alkaline than normal by the ingestion of alkaline salts is usually of a very mild type, and clears up very rapidly. The same applies to acute exacerbations in chronic cases.—I am, etc.,

London, May 9th. A. ARNOLD OSMAN.

GOITRE PREVENTION.

SIR,—In the JOURNAL of January 15th (p. 94) is an article by Lieut.-Colonel McCarrison on an experiment in goitre prevention. It is extremely interesting to me that at last somebody has come forward and given evidence that the so-called lack of iodine had very little to do with goitre, its cause or treatment. That it has a certain action there is no doubt, but the fact remains that its role is only a minor one. For some years past I have been trying to emphasize the importance that infection has in goitre. In the issue of the *New York Medical Journal* for April 5th, 1922, and at the Medical Congress held in Melbourne in March, 1924, I have stressed this point. Repeatedly at the clinical meeting at hospital have I shown cases which have been cured by the removal of infections.

For a good many years I have been treating cases of exophthalmic goitre with success without any iodine, and in every instance I have not failed to bring about a cure where the focal infection could be completely eradicated. In the course of the last five years I have only found it necessary to resort to operation in one or two cases where adenoma was present. Even now, when men are turning their attention to focal infections, they are overlooking the nasal ones.

I sincerely hope that due notice will be taken of McCarrison's article and more attention paid to the infective factor in goitre than to the iodine question. If the infection is removed it will be found that there will be very little use for extra iodine.

We are all agreed that the thyroid is called into activity in the presence of infection, and under such conditions extra iodine is needed. If there should be a local deficiency all those with infections will be the first to show enlargement. Of all the work done in America, New Zealand, and other places there has been very little with regard to cure of goitre by the administration of iodine to school children. This alone should be quite sufficient evidence to show the small part it plays in the production of the disease.—I am, etc.,

SYDNEY PERN, M.R.C.S., L.R.C.P.Eng.

Melbourne, Feb. 24th.

POST-MORTEM EXAMINATIONS IN GENERAL PRACTICE.

SIR,—May I draw the attention of the profession to a matter of great moment both to it and to the public—namely, *post-mortem* examinations in general practice.

To the average general practitioner a necropsy is a nightmare and a thing to be avoided if possible.

If I may be pardoned for my presumption, I do not think the average general practitioner is experienced enough in *post-mortem* work to give a reliable opinion in many cases, and my belief is that he would be the first to welcome assistance. Am I going too far when I say that death certificates are sometimes given somewhat inaccurately, or without sufficient reason for the diagnosis, because the general practitioner knows that his refusal to certify would mean a *post-mortem* examination, which he would have to undertake? It is at least conceivable that crime goes undetected in this way.

Again, if we as general practitioners are compelled to undertake this work, and "toil all night and find nothing," how many of us are strong enough to go into the witness-box and confess our failure?

A short time ago an eminent pathologist in the witness-box said that, although he had conducted a *post-mortem* examination, he could not give an opinion as to the cause of death; but I am afraid this stand could only be expected from the eminent man, with whom the opinion of the masses as to his competence did not weigh.

Would it not be possible for the Government to formulate a scheme whereby each county or other division of the country would be provided with the services of a consulting pathologist, to whom all cases of doubt could be referred, possibly after consultation with the coroner, and who would be responsible for the *post-mortem* examination?

In my humble opinion this would take a load off the shoulders of the general practitioner and would be a safeguard to the public.—I am, etc.,

Bedworth, Warwickshire, May 7th. LIONEL E. ORTON.

*** Dr. Orton's opinion may be compared with that quoted from a letter by Dr. Cyril Helm in an annotation published on April 23rd (p. 769).

GENERAL MEDICAL PRACTICE AND THE MEDICAL CURRICULUM.

SIR,—Dr. Munro Kerr's address (May 14th, p. 870) contains matter of great importance. His main contention—that the student's syllabus is overloaded by surgery and midwifery at the expense of medicine—is true; and the dangers resulting from such overloading are already upon us.

The young general practitioner has almost ceased to consult with the physician-teacher on any case with a conceivable surgical aspect. So little time has the physician-teacher to present his subject that it appears to the student little more than a collection of general pathological principles, and he is apt to conclude that the diagnosis and treatment of many obscure cases begins only with laparotomy. If he is not fortunate enough to serve as an intern he carries these ideas into practice with him. The physician-teacher, losing the double incentive of teaching and practice, is too apt to hand over great tracts of a subject properly his own to the surgeon. And the modern surgeon is an operator, too often to the exclusion of any ambition to be a doctor.

In a minor aspect the effect of the system upon the student, reinforced by the stimulating of his imagination by the majestic ritual of surgery, is to drive him into the operative branch of the profession. This branch has become crowded. There is too much operating, and much of it is bad and unnecessary. Surgeons are born, like poets.

Now, we are at that thrilling moment in medical history when we find that many of the foundations of our structure will have to be rebuilt. The masons required for this hard and inspiriting task are many of them up aloft on the frontage defacing good stonework under the delusion that they are sculptors. The rest, having forgotten most of the elements of their craft, are applauding these efforts from the pavement.—I am, etc.,

Glasgow, May 15th. O. H. MAYOR.

STATISTICS OF TUBERCULOSIS.

SIR,—Dr. Ashforth (April 30th, p. 815) may not be contradicted when he says that "statistics can prove anything"; but when he goes on to say that "50 per cent. of so-called cases of tuberculosis in the sanatoriums are not tuberculosis," he is obviously grossly ignorant of the average population of the sanatorium. If he will accept the presence of tubercle bacilli in the sputum as sufficient evidence of tuberculosis—and that is not asking much—he will find that there are very few sanatoriums in the country where there are more than 30 per cent. of the patients with no sputum or with a negative sputum. I need not argue with him as to the value of statistics, but surely even a sceptical mind will find something suggestive in the figures of the Registrar-General. These figures show that the death rate from tuberculosis is half of what it was a little more than a generation ago. As he is obviously not a believer in sanatorium treatment, one would like to ask him what type of cases have been sent by him to sanatoriums in the past. The practitioner who does not believe in the sanatorium is usually the one who sends the cases in the last stages of the disease, when everything else has been tried and has failed. But, if the sanatorium were tried first, I have no doubt there would be a good few converts among the unbelievers.—I am, etc.,

FELIX SAVY.

Grampian Sanatorium, Kingussie, May 16th.

TRAUMA AS A CAUSE OF AURICULAR FIBRILLATION.

SIR,—My friend Sir James Barr has cast a fly over me, but I do not intend to rise. He asks me to embark on a discussion as to the essential mechanism in the production of auricular fibrillation. This is outside the scope of our paper, which dealt only with the question—whether physical strain might not on occasion be responsible for the induction of fibrillation.

It is good to hear that Sir James Barr's cardio-vascular system is still in such excellent fettle; and I can quite understand that, to him, fibrillation is divested of many of its terrors, if, as he says, "it can be arrested in about five minutes by the induction of the cardiac reflex of contraction."—I am, etc.,

Liverpool, May 16th. JOHN HAY.

Medico-Legal.

LIBEL ON MEDICAL OFFICERS OF HEALTH.

BARNES AND FITZGERALD *v.* BURCHILL AND OTHERS.

At the Lancashire Easter sitting of the King's Bench Division, held at Liverpool on May 4th before Mr. Justice Roche, the terms of settlement were announced by counsel in the action brought by Drs. G. C. Barnes and W. Fitzgerald, respectively medical officer of health and deputy medical officer of health for Southport, against the proprietors of the *Liverpool Evening Express*. Mr. Rice Jones, on behalf of the plaintiffs, in informing his Lordship that the action had been settled, said that one of the terms of settlement was that each side should make a statement. Mr. Rice Jones then, by permission, read the following statement:

Counsel's Statement on Settlement of Action.

"In January last there was an outbreak of small-pox in Southport and the plaintiffs, in the course of their duty as medical officers of health for the borough, had to send persons suffering from small-pox to the Liverpool Isolation Hospital. During the prevalence of this epidemic the defendants printed and published on two occasions in their newspaper, the *Liverpool Evening Express*, paragraphs of a libellous nature affecting the plaintiffs as medical officers of health and as physicians. Furthermore, the defendants drew particular attention to these statements by means of a printed poster of the type ordinarily used by them for the purpose of advertising their newspaper. In view of these publications the plaintiffs claim damages for libel.

"The first of these paragraphs appeared on January 19th and read as follows:

"NOT SMALL-POX AFTER ALL:

"*Some Southport Cases Breathe Again.*

"The relief felt in Southport that the spread of small-pox in the town is abating is increased to-day by the news that out of 20 supposed sufferers sent to the Isolation Hospital a number have been returned suffering only from chicken-pox. Another child notified as suffering from a mild attack of small-pox was sent from Southport to the Isolation Hospital last night. The number of genuine cases of small-pox is now about 13.

"'There is every hope now that the epidemic is dying out,' said a Southport doctor to an *Evening Express* representative to-day. 'Chicken-pox unfortunately is prevalent in the town at the same time, and no doubt through over-anxiety to stamp out the epidemic sufferers from chicken-pox have been sent away as suspects. It is as well to be on the safe side. Chicken-pox is easily distinguishable from small-pox, but the nature of this epidemic has been a mild attack of the disease.'

"This was followed on January 22nd by a second paragraph in these words:

"SOUTHPORT SMALL-POX.

"*Four Fresh Cases sent into Hospital.*

"A further outbreak of small-pox has occurred in Southport. The Southport health authorities report that four fresh cases were removed to an isolation hospital in Liverpool last night. Three are children, two boys and a girl, and the fourth is an aged man. This brings the total number of cases to 18, a number of suspected cases who had been previously sent away being brought back, chicken-pox having been diagnosed. The fresh cases diagnosed are reported to be of a mild character.

"These statements made an unfortunate impression in Southport at the time, and had they been true they would tend to imply that the plaintiffs had made wrong diagnoses and exposed persons suffering only from chicken-pox to the risk of infection with small-pox. In fact, the statements were totally untrue and without the slightest foundation. All the cases sent to the Isolation Hospital at the date of the publications were cases of small-pox and were retained there as such, and in no instance was a case of chicken-pox diagnosed as small-pox. The effect of these untrue statements was to hinder the plaintiffs in their very anxious duty as medical officers of health, and it is of the utmost importance not only to themselves, but to the public generally, that the true facts of this matter should now be made known.

"The defendants have admitted that the publications complained of were untrue, and with the view of alleviating to some extent the continuing damage resulting from the prevalence of these false rumours, they caused an apology to be published in their newspaper on January 28th."

Counsel read the text of the apology, and stated that the defendants had also paid into court a nominal sum of £100 as damages, and they had agreed to pay the plaintiffs' costs as between solicitor and client. He added that although the plaintiffs had suffered considerable damage and inconvenience, it was not their desire to profit pecuniarily by the proceedings which they had felt themselves compelled to institute, their only wish being to vindicate their professional reputations. Accordingly, in view of the defendants' explanation that the statements were published by mistake, the plaintiffs were prepared to accept their apology, together with the nominal sum paid into court, and intended to hand over the £100 to some charitable institution.

Mr. Sellers (counsel for the defendants) said that on their behalf he could add nothing to the apology, expression of regret, and unreserved withdrawal which they had made at the earliest opportunity after their attention was drawn to the words complained of and to the possible construction which might be put upon them; but the defendants readily availed themselves of the publicity which a statement in court gave to repeat that apology and to say that the statements were not intended to reflect in the slightest degree upon the plaintiffs. The defendants withdrew unreservedly any imputations against the plaintiffs' characters which the statements might be construed to contain, and expressed again their regret for any inconvenience or annoyance occasioned to them by the publication.

Mr. Rice Jones then asked his lordship for judgement on terms endorsed on counsels' briefs, and an order that the £100 paid into court should be paid out to the plaintiffs, and Mr. Justice Roche, in consenting, said that this was a very proper ending to the matter.

ACTION IN RESPECT OF TONSILLECTOMY.

On May 9th an action was heard before Mr. Justice Brown and a special jury against Mr. Isaac A. Davidson, M.D., B.Ch., assistant surgeon to the Benn Ulster Eye, Ear, and Throat Hospital. A girl, aged 6, had been attending the corporation school clinic, and her parents had been advised to have the tonsils removed; she was brought to the above-mentioned hospital for further advice and operation. Mr. Davidson removed the one tonsil, but in trying to remove the other he found that it was adherent and could not get it away; he then observed that in his efforts to remove the second tonsil he had removed a bit of the uvula. It was alleged that after the child was brought home she was unwell and complained of her throat; when she took water it came back through the nostrils; when tired she talked with a nasal tone; and that she could not take solid food. Dr. Lee, who attended the child, said that she was not delicate; he found one tonsil efficiently removed, the other not removed and the uvula gone.

Mr. Davidson, in giving evidence, said that he had been connected with the Benn Hospital for more than twenty years, and had performed the same operation perhaps 10,000 times. This operation he performed on November 13th, 1926; the right tonsil was adherent, and on the following morning he noticed that part of the uvula had been removed; the patient progressed in the usual way; the operation was successful and the results were quite good; he had removed the uvula in singers and speakers, and the loss would cause no harm to the little girl; he did not believe that the child could not drink properly.

Mr. W. M. Killen, M.D., M.Ch., senior surgeon to the Benn Ulster Eye, Ear, and Throat Hospital, said that the operation was substantially the same as that which he practised himself; there was no method of ascertaining whether the tonsil was adherent or not before operation; he had never heard or read of any harm coming from the removal of the uvula; the child was in delicate health before the operation, as the mother said that she postponed coming for it till the child should get stronger.

Mr. J. A. Craig, F.R.C.S.Eng., senior surgeon to the Eye, Ear, and Throat Department of the Royal Victoria Hospital, Belfast, and lecturer on these subjects in the Queen's University, said the method adopted by Mr. Davidson was that generally adopted at the present day; the removal of the uvula would not, in his opinion, retard the recovery of the child.

The action was brought by the child's father, and heavy damages were claimed. The jury found that the defendant had exercised reasonable care and skill in performing the operation, and judgement was entered for him accordingly.

AN OSTEOPATH'S FEES.

THE decision given by the Marylebone county court judge that an osteopath could not recover fees for treatment undertaken by him—reported in the BRITISH MEDICAL JOURNAL of March 5th (p. 448)—was appealed against before Acton and Talbot, JJ., sitting as a divisional court in the King's Bench Division on May 16th.

Their lordships ordered a new trial on the ground that they were bound by the decision of Horridge and Shearman, JJ., sitting as a divisional court, on appeal from a county court judge's decision, in the case Hall *v.* Trotter, that an osteopath was entitled to recover fees for treatment rendered. Leave to appeal was given.

The plaintiff, Mr. E. L. Macnaughten, of Weymouth Street, London, claimed £30 9s. for osteopathic treatment for nervous disability and facial neuralgia rendered by him to the wife of the defendant, Mr. C. H. Douglas. The defendant relied upon the provisions of Section 32 of the Medical Act, 1858:

"No person shall be entitled to recover any charge in any court of law for any medical or surgical advice, attendance, or for the performance of any operation, or for any medicine which he shall have both prescribed and applied, unless he shall prove upon the trial that he is registered under this Act."

The county court judge held that as the plaintiff was not a registered medical practitioner he could not recover fees for treatment, and entered judgement for the defendant, with costs. The plaintiff appealed to the divisional court.

Mr. A. C. Jackson, counsel for the appellant, said Mr. Macnaughten was a graduate of Trinity College, Dublin, in subjects other than medicine, but he also possessed an American degree of Doctor of Osteopathy, a profession recognized in America. The claim was for manual treatment and not for advice given, as the defendant's wife was perfectly well acquainted with the nature of osteopathic treatment when she first came to him for treatment. In Hall *v.* Trotter it had been held that in almost exactly similar circumstances an osteopath was entitled to recover fees for treatment rendered, and, therefore, the Marylebone county court judge was wrong here in holding that Section 32 of the Medical Act, 1858, applied to treatment of this kind.

Mr. L. Payne, for the respondent, urged that the plaintiff was not entitled to recover fees for treatment which usurped the functions of a medical man. The plaintiff's occupation was analogous to that of a masseur, who might be able to recover for

treatment in certain circumstances, but not in a case where he had been called upon to give advice.

In his judgement Acton, J., said the question was undoubtedly one of some importance and one which at first sight might appear to present some little difficulty. The very question, however, had been raised before and decided by a divisional court in Hall *v.* Trotter, where the plaintiff had a diploma from an American college of osteopathy, but was not registered as a medical practitioner in this country. It was to be regretted that the facts in Hall *v.* Trotter were not fully set out in the report, as it would have been useful to know whether the plaintiff there undertook any diagnosis, or gave any advice, as distinct from actual manual, or manipulative, treatment; and, if so, how far his claim was based upon the former. In that case the county court judge had held, and the divisional court had confirmed his decision, that osteopathy was treatment that did not fall within Section 32 of the Medical Act, 1858. However, from the report it appeared that arguments similar in substance to those relied upon in the present case had been addressed to the court. One of the judges, Horridge, J., had said: "In his view of the findings of the county court judge the plaintiff did not give an advice. She gave certain treatment to the bodies of these three persons. He declined to be led into definitions. He was satisfied that the case did not fall within the Act." The other judge, Shearman, J., had agreed: "The plaintiff applied her knowledge of anatomy to help her to determine the part of the body to which she should apply the treatment she had been specifically called in to give . . . he thought the county court judge here was right, but he was far from saying that anyone who chose to call himself an osteopath could charge for any service which he chose to render." His lordship said it might be that if the plaintiff's charges were analysed, and if it were proved that any part of those charges was for advice given, the plaintiff would not be able to recover in respect of that portion. The plaintiff's claim, however, had been wholly barred by the county court judge. In view of Hall *v.* Trotter, it was not open to that court to do other than follow that case, and, therefore, they would order a new trial, but he (his lordship) would express no opinion whether the plaintiff's claim could be divided into charges for manual treatment and charges for advice.

Talbot, J., in concurring, said a very strong argument in support of the county court judge's judgement might have been urged but for the decision of a divisional court in Hall *v.* Trotter, which he regarded as a binding one.

Obituary.

JAMES DUNCAN MACLAREN, M.D., F.R.F.P.S.G.,

Formerly Physician to the Royal Infirmary, Glasgow.

THE death occurred on May 10th, at his residence, Dunreggan, Elie, Fifeshire, of Dr. J. D. Maclaren. He was in his 95th year, and had been a fellow resident of Lord Lister in Edinburgh Royal Infirmary. He was born in Stirlingshire and studied both at Glasgow and Edinburgh Universities; at the latter he graduated M.D. in 1854 with a thesis on the nutritive process. In the winter session 1854-55 he acted as house-physician in Edinburgh Royal Infirmary to the professors of clinical medicine. These were Alison, Christison, Hughes Bennett, and Simpson, of whom he had many memories and anecdotes. His fellow residents included Dr. J. Beddoe, Dr. (later Sir John) Kirk, Joseph (later Lord) Lister, Dr. David Christison, and Dr. (later Sir Patrick Heron) Watson. Immediately after his term of office as a resident, Dr. Maclaren went to the Crimea, where the troops were at that time greatly in need of medical assistance. He served both at Scutari and as assistant physician to the civil hospital at Renkioi in the Dardanelles. For a period he also acted as company commander to troops, since there was a shortage of officers. On his return to this country after the Crimean war Dr. Maclaren settled in practice in Glasgow, where he ultimately became physician to the Royal Infirmary. He took up the practice of the late Professor Harry Rainy, the father of Principal Rainy, and practised medicine at Glasgow during half a century. Dr. Maclaren was the senior member of the Faculty of Physicians and Surgeons in Glasgow, which in 1924 elected him an honorary Fellow. He had taken the licentiateship of the Royal College of Surgeons of Edinburgh in 1854, and had become an ordinary Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow in 1866.

Both in Glasgow and after his retirement Dr. Maclaren took a great interest in the affairs of the United Free Church. In 1858 he had been appointed session clerk of Claremont Church, Glasgow, of which his brother was the minister, and after his retirement, when he went to reside in Elie, Dr. Maclaren was session clerk of Elie United Free Church. This office he held till his 89th year, when increasing blindness compelled him to resign; until some two or three years ago he attended regularly the annual general assembly of the United Free Church. Dr. Maclaren retired from active practice some twenty-two years ago; he travelled extensively and twice went round the world. He was a man of wide culture and interests, and a great reader. His interest in every recent work on history, biography, or politics as it appeared was continued even after increasing failure of vision necessitated the help of a reader, and his keenness of intellect and memory remained to the end of his life. He continued a member of the British Medical Association until last September, when he resigned. His vitality was surprising for a man of his years. Living at Elie, he was a member of Elie Golf House Club for over twenty years. He played golf regularly, and could beat many younger men, until the age of 85. Some three years ago he underwent a serious operation for calculus, but made an uninterrupted recovery. Dr. Maclaren had been a widower for many years; he had a family of five daughters, of whom three survive him. The interment took place at Tillicoultry on May 13th.

THE LATE PROFESSOR E. H. STARLING.

SIR WILLIAM HALE-WHITE writes: The admirable account of the late Professor Starling in your last issue prompts me to add something to what Dr. C. J. Martin says about his clinical work. At the end of his studentship at Guy's Hospital Starling obtained the Treasurer's Gold Medal for Clinical Medicine and was *proxime accessit* for that for Clinical Surgery. He became my house-physician in 1889, and I never had a better. He had a marvellous flair, not only for the science, but also for the art of clinical medicine. If he had chosen medicine for his life's work he would have become one of the chief among the really great physicians. He never lost his clinical aptitude. When war broke out he came, saying that he proposed to go round the wards with me to furbish up his medicine. Although he had done no clinical work for twenty-four years, he picked it up at once; in a fortnight he was as good at it as when he finished his house-physiciancy, and he went forthwith to take charge of patients at the Herbert Hospital. His interest in medicine remained throughout his life, for he would always discuss with enthusiasm how his physiological work helped the elucidation of medical problems. It has been my happiness to have known him and to have seen much of him during the past forty years. There was no greater pleasure than that of talking to him—he was so alert, so interested in everything. He could not be dull; in a few words he got to the root of the matter and illuminated the whole subject, whatever it might be.

The following well known foreign medical men have recently died: Dr. SCHICKELE, professor of clinical gynaecology at Strasbourg University; Professor PAUL REGNARD, director of the Oceanographic Institute founded by the Prince of Monaco and member of the Académie de Médecine; Professor EUGENIO PIRONDINI of Parma, one of the founders of the Italian Society of Urology; Professor GAVELLO, an otologist of Turin; Dr. SALVADOR CARDENAL, honorary professor of surgery in the University of Barcelona, aged 74; Dr. J. DE BRUIN, professor of clinical pediatrics at Amsterdam; Dr. JULES BOECKEL, honorary professor of the Strasbourg faculty of medicine and Commander of the Legion of Honour, aged 78; Dr. MARCEL BRIAND, a leading Paris alienist and for nearly thirty years medical superintendent of the Villejuif Asylum; Dr. JULIUS POHL, formerly professor of pharmacology at Breslau; Dr. M. HOFMEYER, formerly professor of gynaecology at Würzburg; Professor ALEXANDER TIETZE, a leading Breslau surgeon; Professor UHTHOFF, formerly director of the ophthalmological clinic at Breslau, aged 74; Dr. BARFURTH, formerly professor of anatomy at Rostock, aged 78; Dr. PERETTI, formerly professor of psychiatry at Düsseldorf, aged 75; Dr. HERMANN VON TAPPEINER, professor of pharmacology at Munich; and Professor GEORGE SUMMER HUNTINGTON, professor of anatomy at Columbia College and joint editor of the *Journal of Anatomy and Physiology*.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has been engaged this week in further discussion of the Trade Disputes and Trade Unions Bill and on the second reading of the Finance Bill. In the House of Lords Lord Arnold opened a debate on the use of white lead paint, but no new declaration of policy resulted. Arrangements were made for Lord Dawson to address an open meeting of members on May 19th regarding the use of animals in medical research.

Optical Practitioners' Registration.

IN the House of Commons on May 13th Mr. West Russell moved the second reading of the Optical Practitioners (Registration) Bill. He said this was the only country in the world with no legislation on the registration of opticians. There was such legislation in Australia and in every State of the U.S.A. At present in this country more spectacles were worn by adults and children than were worn a few years ago. This was largely due to the voluntary efforts of the opticians. The principle of State registration had been accepted and was in operation with success in some other professions. It was said on good authority that something like 15,000,000 people in this country had defective eyesight. In industry at present were some 4,000,000 suffering from short sight or some defect of eye construction. Something like 24.8 per cent. of school children suffered from defective sight. The Council of the British Optical Association and the Council of the Spectaclemakers Company formed the Joint Council of Optical Practitioners, and this had registered something like 3,500 opticians of whose qualifications some guarantee was given. The Council's course of training and preparing entrants enabled opticians not only to test the eye and to provide the spectacles which were necessary, but also to equip them with a knowledge of the construction of the eye and of the matters pertaining to it. The training of this useful body of men to deal with the problem of defective eyesight was being carried on by these voluntary associations. The Joint Council of Qualified Opticians had been founded because, in 1923, when ophthalmic benefit was first provided under the National Insurance Act, there had been no body to administer it. That benefit was now administered by the Joint Council of Qualified Opticians. Under the second valuation £2,000,000 would be distributed in five years for ophthalmic benefit, yet no authority was established by law to control and direct that sum. There was nothing in the bill to hinder anyone who was carrying on the work of an optician from doing so. The bill would merely enable the public to distinguish men of whose qualifications some guarantee was given by a responsible body. It would tend to eliminate quacks and mere sellers of spectacles. Mr. Russell remarked that, as one might expect, the most serious opposition to the bill came from the medical authorities, who, he understood, objected that it would give a status suggesting to the public that the registered optician was capable and qualified to deal with all matters concerning the eyes. But of defective eyesight 95 per cent. was due entirely to error of refraction and only 5 per cent. was due to disease or other cause. While it was true that an optician might not be able to diagnose the disease of the eye or to discover the source of the eye trouble, his training would enable him to detect the cases which were not to be dealt with merely by spectacles, but passed on to some medical authority. At the present moment most of this detection was done by opticians and not by medical practitioners. In health insurance it was necessary for the panel doctor to give a letter authorizing the provision of medical benefit. In the vast majority of cases the letter simply authorized a person to go to an optician to have his eyes tested and glasses provided. It was doubtful whether, comparing the general knowledge of the medical practitioner with the specialized knowledge of the optician, he was better fitted to deal with these cases.

Mr. Roy Bird seconded. He said that during the war the British Optical Association, at the request of the War Office, formed centres at home and on all the fronts, where qualified opticians not only dealt with spectacles and with sight, but in many cases administered drugs without medical supervision. The registered members of the Joint Council of Optical Practitioners numbered 3,000, but only 700 men appeared on the register of the British Medical Association as ophthalmic surgeons. Fifty per cent. of those on that list did not specialize in the eyes and diseases of the eye, but at some time had held an appointment or possibly had written a paper dealing with the eyes. Another 25 per cent. had no special qualification which was shown in the *Medical Register*. The medical profession said that 700 men could deal with the whole eyesight in this country, but in 358 towns only 397 qualified ophthalmic surgeons were practising. Ophthalmic surgeons were congregated either in the West End of London or in the big provincial towns and famous health resorts. The medical profession were claiming a physical impossibility in asking that qualified ophthalmic surgeons should look after the whole community. Mr. Roy Bird said he would have been happier in supporting a measure which prohibited the sale of glasses or the testing of eyesight by quacks. The bill did provide for the establishment of a register, and a subsection provided for the special admission of opticians who had been engaged in the practice of optometry for five years before the commencement of the Act and who also passed a practical examination in optometry. A right of appeal to the High Court was provided, which he commended to the notice of the medical profession. The Board was to be nominated by the Ministry of Health and to represent not only the opticians, but also the Ministry of Health, the General Medical Council, the Scottish Board of Health, and the Board of Education.

Dr. Vernon Davies moved an amendment asking the House to decline to give a second reading to the bill as its subject matter was being investigated by a departmental committee. He said that members associated with him felt they must point out that the bill was *sub judice* and that two members of Parliament were sitting on the inquiry. In the opinion of his friends the bill was bad and impossible to work. Within recent years there had been an epidemic of applications for registration by societies of practitioners. The Joint Council of Qualified Opticians consisted of a little over 3,000 members, yet 30,000 persons in the United Kingdom obtained the whole or part of their living from practice as oculists. The Institute of Chemist Opticians, 5,000 in number, said the Joint Council of Qualified Opticians had no right to speak for the rest of the profession, and that they themselves were alone qualified by statute. An ophthalmic surgeon of very long experience said he never knew any patient to go into a spectacle shop and come out without spectacles. The medical profession adopted a very definite attitude. It said that training for the treatment of eye diseases called for special and prolonged study. Mr. H. Williams, intervening, asked how long the ordinary medical student devoted to the study of the eye. Dr. Davies said he undertook a course of lectures and made practical attendances at hospital. Practically all the ophthalmic surgeons in the country had extended post-graduate training as house-surgeons in eye hospitals. If a bill were introduced setting out the qualifications and training of opticians it would have a claim on the attention of the House, but this bill was vague and impracticable. He questioned whether the training which opticians got was sufficient to enable them to detect all kinds of eye diseases. The great difficulty had been the shortage of ophthalmic surgeons and the very high fees that were charged. Opticians did treat such cases as inflammation of the eye, chemist-opticians particularly.

Sir George Berry seconded the amendment. He agreed that the public should be enabled to discriminate between the skilled optician and the less skilled. At present the different societies examined their members who got the right to put letters after their names indicating that they had undergone a test according to the requirements of the society. This ought to suffice in the public interest. Many opticians contended that unless there were suitable correction of optical defects, serious damage would be done to the eyes. In his experience he had never known spectacles, however unsuitable, do any damage at all. Discomfort could be caused, but to say there was actual danger to the eye was an exaggeration. The positive effects of getting suitable spectacles were good and justified having the services of opticians, but they did not justify this bill, which was calculated to arouse in the public a mistaken sense of security. The skilled optician was perfectly competent to undertake the correction of optical defects, and his skill could be acquired in a few weeks or months. The optician might discriminate between defects due to diseases of the eye and optical defects, but not without being liable to make many mistakes, unless he had the full training of a medical man. Owing to the complexity of the eye the medical curriculum required the student to take up diseases of the eye only in the last six months of the time devoted to his studies. Mr. Barnes supported the amendment on the ground that Parliament should review the post-war tendency of a number of professions to seek privileges which would make them close corporations. Mr. Meller, in supporting the bill, said that Dr. Davies and Sir George Berry had spoken with great fairness. He declared that the instruction which the ordinary medical practitioner received in treatment of the eye was considerably less than that given by institutes now training opticians. The bill proposed to do what was done under the Dentists Act. The Board of Examiners under the bill was to include ophthalmic surgeons. He himself had to deal with thousands of applications for medical benefit, and after testing the advice given by medical practitioners he confidently supported the bill.

Mr. Rhys Davies supported the amendment. He said the British Medical Association took the usual attitude towards the problem, the attitude of malignant opposition to progress of any kind. The members of the British Medical Association did great service to the community, but when any other organization proposed to touch its preserves it at once became the mightiest and most influential trade union in the country. The doctors had taught the lesson that when funds were in hand they must be dipped into by someone. In 1912 they declared a strike, even in breach of contract. If Dr. V. Davies would induce the British Medical Association to join the Trade Union Congress then they would all work together. Mr. H. Williams pointed out that Mr. Rhys Davies was a member of the Departmental Committee now considering the registration of opticians. Sir Kingsley Wood said it was impossible to give an exact estimate of the number of persons suffering from defective eyesight, but among school children the figure was fairly constant at 10 per cent., though last year a slight improvement had been reported. On that basis it might be calculated that about 8,000,000 persons in the country required some aid by glasses. It was true that in an appreciable number of cases great harm might be done by an optician qualified in his own work but lacking medical knowledge, but how far that argument was valid could only be ascertained by full inquiry. Impartial inquiry was the more important as the sum allocated for ophthalmic treatment and optical appliances under the National Insurance Act was now £420,000 a year. He asked the promoters of the bill not to proceed with the second reading. Mr. Russell asked leave to withdraw the bill. Dr. Davies asked leave to withdraw the amendment. Sir Richard Barnett said that Sir George Berry's assertion that no kind of spectacles could injure a man's sight was amazing and had been at once challenged by the House. Mr. Tom Shaw said that if the bill passed the price of spectacles would probably increase, but every man or woman who went to a

skilled optician would have a chance of knowing whether there were anything seriously wrong with the eyes. Mr. A. V. Alexander spoke of the desire of the co-operative societies to retain the right to maintain optical departments.

The motion for the second reading of the bill was then negatived.

Shop Acts, 1920 and 1921.

The Departmental Committee which is inquiring into the working of the Shop Acts, 1920 and 1921, met at the Home Office on May 11th and 12th.

Mr. J. Hallsworth (Industrial General Secretary of the National Union of Distributive and Allied Workers) said that it was impossible, without the compelling force of a generally applicable early closing law, to protect and safeguard the health and comfort of those engaged in retail distribution.

Witnesses for the National Federation of Retail Fruiterers urged a general closing order for all trades of 8 o'clock on week nights and 9 on Saturdays, without exemptions. They said that, thanks to the medical and other scientific advice, fruit was no longer considered a special luxury. It was becoming a regular daily article of diet. In 1926 £2,000,000 worth or more of fruit was consumed.

Mr. E. D. Roberts, one of the witnesses, said that his experience was that girls who came into the fruiterer's trade weakly and anaemic became strong and healthy.

Small-pox.

Sir Kingsley Wood, answering Mr. Thurtle, said that up to May 11th 28 cases of small-pox in England and Wales had this year ended fatally. Of these, 21 were unvaccinated at the time of infection; 7 had been vaccinated in infancy. Of these latter the ages at the time of attack were 22, 23, 44, 50, 54, 58, and 62. He had no reason to doubt that all the cases were small-pox. Dr. Watts asked whether the types of cases in the last few months had been more virulent than for some time. Sir Kingsley Wood said he had seen a statement to that effect. Answering Mr. Harrison, Mr. Chamberlain said that in the fifty-two weeks ended April 2nd, 1927, 12,922 small-pox cases were notified in England and Wales. In the year ended March 31st, 1927, 32 deaths were classified as due to small-pox, and in another case small-pox was one of the causes of death. Mr. Harris asked whether some of the cases were not supposed to be chicken-pox. Mr. Chamberlain said some people would believe a case of small-pox to be anything but that. He added that he was obtaining full information on the number of local authorities in England and Wales who had no permanent buildings which could be used for dealing with an outbreak of small-pox. In due course this information would be published. Mr. Groves asked whether, as the small-pox cases removed from Hendon and Golders Green were originally reported as very mild, the Minister could throw light on the fatal result of half of them. Mr. Chamberlain did not know of such reports. He said the first case was relatively mild, but most of the others were severe. Mr. Groves asked whether the regional medical inspectors, when called in to diagnose cases of suspected small-pox, received a fee. Mr. Chamberlain replied that the question did not arise, as it was no part of the duties of regional medical officers of the Ministry to assist in such diagnoses.

On May 17th Sir Kingsley Wood stated that twenty persons contracted small-pox in the county of Durham in 1924. In 1925 there were 1,138 cases, and in 1926, 6,645. In reply to further questions, he said he could not state how many of the cases were children, how many had not been vaccinated, nor in how many instances the disease was originally contracted abroad.

Sickness in the Royal Navy.—Answering Sir Bertram Falle, Mr. Bridgeman said that in 1924 five cases were invalided from the navy for nephritis and one for stone in the kidney. Particulars of subsequent cases were not available. There had been an inquiry to determine whether distilled water was detrimental to health, but no evidence was available that it was a factor in the causation of disease. Distilled water produced in ships underwent considerable aeration before it was consumed. In a further answer to Sir B. Falle, Mr. Bridgeman said in 1924 20 boys, Royal Navy, were admitted to sick quarters and hospital for "rheumatism" and kindred complaints; in 1925 11, and in 1926 13. Such cases were kept under observation, and the figures did not show there was any increase. The medical department were diligent in the matter, and he understood it to be satisfied that there were no unusual circumstances causing this disability. Dr. Vernon Davies asked how many of these cases were invalided out with heart disease. Mr. Bridgeman asked for notice of the question. Mr. Groves asked the Minister of Health whether, in cases of infectious disease where there was uncertainty regarding the complaint and the medical officer was called in to decide, the patient's doctor or the medical officer received the notification fee. Mr. Chamberlain said that in such a case the medical officer of health would not be entitled to a notification fee, but if the patient's doctor notified the case he would receive the usual fee.

The University of London Site.—On May 17th the Financial Secretary to the Treasury stated that the University of London had arranged to purchase the Bloomsbury site from the Duke of Bedford, but he was informed that no contract had yet been signed. The Chancellor of the Exchequer had informed the House on November 9th last that he promised, in June, 1926, on behalf of His Majesty's Government, that they would be prepared, within certain financial limits, to ask Parliament to make provision for improved accommodation for the University, subject to the Treasury approval of plans to be formulated by the Senate. No official intimation had yet reached the Treasury. He could only say that the amount which Parliament would be asked to provide towards the improved accommodation of the University would be approximately half the price paid by the Government for the Bloomsbury site, which was £425,000.

Notes in Brief.

In the administrative and higher grades of the Ministry of Health 223 men and 14 women are employed at headquarters.

Further legislation on the acquisition of playing fields by local authorities is not proposed.

The Minister of Health remarks that the installation of telephones at the residences of public health nurses is a matter for the consideration of the bodies by whom the nurses are employed.

Mr. Chamberlain told Mr. Thurtle that the reconsideration of his decision concerning the giving of birth control information at maternity centres would depend on an expression of opinion by Parliament.

The Minister of Health is not aware that any canned goods are imported into this country the sale of which is prohibited in the countries of origin because of the presence in them of preservatives or artificial colouring matter.

On January 1st, 1926, there were 1,439,810 persons in England and Wales in receipt of Poor Law relief, including lunatics in asylums, casuals, and persons receiving domiciliary medical relief only.

The further study, by the Industrial Fatigue Research Board, of the effect of atmospheric conditions on the working capacity of miners, and also on the accident rates in mines, is engaging the attention of the Secretary for Mines.

Colonel Lane-Fox says that he does not propose to introduce legislation making the provision of pit-head baths compulsory.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on May 5th the degree of Doctor of Medicine (D.M.) was conferred on H. St. H. Vertue and C. F. T. East.

In convocation on May 10th a decree was promulgated accepting with gratitude the sum of £1,000 offered to the University by the widow and sisters of George Herbert Hunt, M.D., physician to Guy's Hospital, who died in January, 1926, for the establishment of a medical travelling scholarship in his memory.

SCHORSTEIN RESEARCH FELLOWSHIP IN MEDICAL SCIENCE, 1927.

Provided that the decree promulgated on March 15th is approved by Congregation on May 10th, the Board of the Faculty of Medicine will make an election to the above fellowship in June if a candidate of sufficient merit presents himself. The Board has power, in special circumstances, to divide the fellowship into two studentships.

The fellowship, which will be of the annual value of £200, will be tenable for two years from October 10th in any of the medical departments at Oxford under such regulations as the Board may approve. Candidates must be graduate members of the University, holding a registrable medical qualification, and must be under 35 years of age on October 10th. Applications must be sent to the Dean of the Medical School, University Museum, *not later than Thursday, May 19th.* Each candidate must submit evidence of age, testimonials (three copies) or names of referees, together with a statement of his career, and of the department of medical science in which he proposes to research.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 7th the following medical degrees were conferred:

M.B., B.CHIR.—D. Riley.
M.B.—H. L. Wilson.

UNIVERSITY OF LONDON.

UNIVERSITY COLLEGE CENTENARY CELEBRATIONS.

THE celebration of the centenary of University College, London, will be inaugurated by the King and Queen, who will visit the College on the afternoon of Thursday, June 23rd; on the afternoon of the following day the Great Hall will be dedicated by Prince Arthur of Connaught, who will receive the delegates, by some of whom addresses will be presented. On Saturday the morning will be occupied by lectures and demonstrations, and in the afternoon there will be a garden party at Perivale, where are the hostel and sports ground of the College. On Monday evening, June 27th, a conversazione will be held, and on the following Thursday afternoon there will be a special thanksgiving service at Westminster Abbey; in the evening of the same day the Right Hon. H. A. L. Fisher, who was President of the Board of Education when the Bloomsbury site was originally offered to the University and is now Warden of New College, Oxford, will give the Centenary Oration. On Friday, July 1st, the Master and Wardens of the Worshipful Company of Drapers will give a luncheon in their hall. A centenary play will be given on three evenings, and on Saturday, July 2nd, there will be a dance in the Great Hall. On each morning, with the exception of Thursday and Saturday, during the week ending July 2nd there will be lectures and demonstrations.

VICTORIA UNIVERSITY OF MANCHESTER.

THE Dauntesey Medical Senior Scholarship has been awarded to W. W. Kay.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia of the Royal College of Physicians of London was held on May 12th.

Fellowship.

The gentlemen elected on April 28th (BRITISH MEDICAL JOURNAL, May 7th, p. 859) were admitted to the Fellowship.

Junior Standing Counsel.

The Registrar reported that Mr. C. Stafford Crossman had accepted the post of junior standing counsel to the College.

Medical Science Abstracts and Reviews.

A letter was read from the secretary of the Medical Research Council regretting the inability to resume the publication of *Medical Science Abstracts and Reviews.*

Delegates.

It was reported that Dr. S. W. Wheaton had consented to act as the delegate of the College to the third Imperial Social Hygiene Congress.

Dr. L. S. T. Burrell was appointed the delegate of the College to the thirteenth annual conference of the National Association for the Prevention of Tuberculosis.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on May 12th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Diplomas of Fellowship were granted to Mr. George Frederick Gibberd and Mr. Arthur Joseph Wrigley, who have now complied with the regulations.

Mr. Cecil Fowler Beadles and Sir Henry John Gauvain were introduced and were admitted Fellows of the College.

Diplomas of Membership were granted to 163 candidates, of whom 28 were women.

A report from the Nomination Committee was received on the Primary Examination. It was decided that at present no alteration be made in the subjects of the Primary Examination for the Fellowship. The following recommendation of the Nomination Committee was adopted:

> That it is desirable to send examiners to the Dominions to conduct a Primary Examination for the Fellowship of the same standard as the examination in this country on conditions to be hereafter determined, provided that satisfactory arrangements can be made.

The President reported that the new by-laws had been approved and signed by the Secretary of State for Home Affairs, the Lord Chancellor, and the Lord Chief Justice.

Mr. E. Miles Atkinson was presented with the Jacksonian prize for the year 1926, together with a document declaratory of the award.

Mr. Herbert Cecil Malleson, winner of the John Tomes prize for 1924–26, and Mr. Robert Gordon Wilbond, appointed Begley student, were also introduced.

Jacksonian Prize.

The subject selected for the Jacksonian prize for 1927 is "The pathology, diagnosis, and treatment of bronchiectasis and abscess of the lung." The amount of the dividend received from the trust is £19 10s. The dissertations for the prize must be delivered to the secretary at the College by 1 p.m. on Saturday, December 31st. As already announced the subject for the 1928 prize is "The surgical treatment of pulmonary tuberculosis," for which the dissertations must be received at the College by 1 p.m. on Monday, December 31st, 1928.

Medical News.

A DISCUSSION on the function and distribution of haemoglobin and related substances in living organisms was opened at the meeting of the Royal Society on Thursday, May 12th, by Professor J. Barcroft, F.R.S., who reviewed the recent work on haemoglobin and related substances; he was followed by Dr. H. Hartridge, F.R.S., and Mr. F. J. W. Roughton, who dealt with the measurement of velocities of reaction of haemoglobin with other substances; by Dr. D. Keilin, on the cytochrome in animal and plant cells; by Mr. R. Hill, on the structure and preparation of haemoglobin and its chemical precursors; by Professor H. Munro Fox, on haemoglobin analogues in the blood of certain polychaete worms; and by Mr. J. B. S. Haldane, on the effect of carbon monoxide on plants and insects containing no haemoglobin. The discussion was brought to an end by Sir Frederick Hopkins, F.R.S., who stated some general conclusions.

THE Far Eastern Association of Tropical Medicine was instituted to serve as a means of co-ordinating the medical, dental, and veterinary professions of the countries of the Far East in the promotion of the science and art of tropical medicine and the instruction of public opinion in the prevention of disease. Congresses have already been held at Manila (1910), Hong-Kong (1912), Saigon (1913), Java (1921), Singapore (1923), and Tokyo (1925). At the invitation of the Government of India the seventh congress will be held this year at Calcutta from December 5th to 22nd, when Major-General T. H. Symons, C.S.I., Director-General of the Indian Medical Service, will preside. Scientific sessions will be held at Calcutta during the first week of the congress, after which excursions will be made to some important cities and places of interest in India; in this way several provinces will be able to take part in the proceedings. The official languages of the congress will be English, French, and German. An exhibition of various manifestations of tropical disease is being prepared. Scientific papers from medical practitioners are invited; the titles should be sent as soon as possible to the general organizing secretary, Lieut.-Colonel J. Cunningham, I.M.S., at the Pasteur Institute of India, Kasauli, Punjab. It is requested that typewritten abstracts, not exceeding 1,000 words, may be supplied not later than the end of July, and that complete papers shall reach the secretary at least eight weeks before the beginning of the congress. Arrangements will be made to exhibit lantern slides and microscopic preparations. The fee for membership is £2.

FIELD-MARSHAL VISCOUNT ALLENBY will distribute the prizes at St. Mary's Hospital Medical School on Wednesday, June 8th, at 3 o'clock.

THE fourth annual congress of the Incorporated Association of Hospital Officers will commence at the Royal Horticultural Hall, Vincent Square, Westminster, S.W., on Friday, May 27th. The morning session opens at 10.30 a.m., and the afternoon session at 2 p.m. The chief subjects for discussion will be hospital policy with reference to the raising of funds and hospital planning and construction. The annual dinner will take place at the Hotel Cecil in the evening. Visits will be paid to London hospitals and other places of interest on Saturday, May 28th. A hospitals and institutions exhibition in connexion with the conference will be opened by Princess Arthur of Connaught on May 26th at noon, and will remain open on the two following days from noon till 8 p.m.

BY invitation of Mr. Henry S. Wellcome the meeting of the Royal Anthropological Institute on May 24th will be a conversazione to be held at the Wellcome Historical Medical Museum, 54A, Wigmore Street, W., when Professor G. Elliot Smith, F.R.S., will give a brief discourse on the medical and magical aspects of the anthropological material in the museum, and Fellows will have an opportunity to inspect the collections.

AN address on Lord Lister and the romance of surgery will be given at University College by Mr. Raymond Johnson, F.R.C.S., consulting surgeon to University College Hospital, on Monday, May 23rd, at 5.30 p.m.

DR. J. STRICKLAND GOODALL will deliver the St. Cyres lecture at the National Hospital for Diseases of the Heart on Tuesday, May 31st, at 5 p.m. The subject of the lecture will be some general aspects of myocarditis. Tickets of admission can be obtained on application to the Secretary of the Hospital, Westmoreland Street, W.1.

THE annual meeting of the Lebanon Hospital for Mental Diseases was held on May 19th, at 3 p.m., at Friends' House, Euston Road, N.W.1. Dr. H. Watson Smith, director of the hospital, presented his report for the year. This hospital is situated at Asfuriyeh, near Beyrout, in Syria; it was founded in 1900 as an acute mental hospital for the peoples of Syria and Palestine. It is controlled by committees in London, Holland, Switzerland, and Philadelphia.

IN aid of King Edward's Hospital Fund for London the president of the Royal Astronomical Society (Rev. T. E. R. Phillips) will give a lantern lecture at the Polytechnic, Regent Street, London, on Friday, May 27th, at 8 p.m., on the total eclipse of the sun, which traverses part of northern England and Wales on June 29th. The charge for admission is 1s. 6d., but reserved seats can be obtained from the secretary of the Fund, 7, Walbrook, E.C.4, price 4s.

AT a meeting of the Society of Superintendents of Tuberculosis Institutions to be held at St. Thomas's Hospital to-day, Saturday, May 21st, at 2.30 p.m., Dr. G. T. Hebert will read a paper on interpretation of negatives in chest radiology.

THE annual dinner of the Harveian Society of London will be held at the Connaught Rooms, Great Queen Street, on Thursday, June 9th, at 7.30 p.m. Particulars may be obtained from the Honorary Secretary, 81, Cambridge Terrace, W.2.

THE Fellowship of Medicine announces that demonstrations will be given by Mr. J. Swift Joly at St. Peter's Hospital on May 25th, at 2 p.m., and on the same date by Mr. H. Neame, at the Royal London Ophthalmic Hospital, at 1 p.m. On May 26th, at 2.15 p.m., Dr. E. G. B. Calvert will give a clinical demonstration at the Royal Northern Hospital. These demonstrations are free to medical practitioners. From June 8th to 21st the Chelsea Hospital for Women staff

will undertake a special course in gynaecology, including operations, lectures, and demonstrations. A four weeks' afternoon course will be held at the Central London Ophthalmic Hospital from June 8th to July 2nd, and an operative course will be arranged if desired. From June 13th to 25th a course in diseases of children will be given at the Children's Clinic. Sessions will also be held at the Hospital for Diseases of the Heart, Bethlem Royal Hospital, Royal National Orthopaedic Hospital, the Royal Waterloo Hospital, and elsewhere. There will be an afternoon course in dermatology at the Hospital for Diseases of the Skin, Blackfriars, from June 20th to July 1st; on each Tuesday special cases of interest will be shown. From June 27th to July 9th the Victoria Park Hospital will provide a special course. The Fellowship of Medicine can arrange for practical courses in anaesthetics and obstetrics, and for clinical assistantships in gynaecology. The Fellowship provides also a general course of instruction at the associated hospitals. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

THE Davson centenary gold medal for original medical research in British Guiana during the triennial period 1923–26 has been awarded to Dr. Basil Noel Victor Bailey for a thesis entitled "Some preliminary notes on Bright's disease in British Guiana."

AT a recent meeting of the Section of the History of Medicine of the Royal Society of Medicine (*Proceedings*, March, 1927, p. 587) the President, Mr. W. G. Spencer, exhibited eighteen letters written by Edward Jenner to Alexander Marcet, physician to Guy's Hospital and one of the founders of the Medical and Chirurgical Society; they were presented to the library of the Royal Society of Medicine by Marcet's great-grandson, Dr. William Pasteur. Mr. Spencer said that the letters have an important bearing on Jenner's statements concerning the pox of domestic animals (cow, horse, and pig) and human small-pox, which have been confirmed by recent observers.

THE report presented to the annual meeting of the Hospital Saturday Fund for London on May 11th showed that notwithstanding the conditions prevailing in the industrial world throughout the greater part of last year the work of the fund was well maintained. The income of the general fund was £79,192, of which £77,037 was derived from collections and donations. In spite of the general strike, which had affected collections in business houses, workshops, and factories, the old position had been nearly regained at the end of the year. In an address on the institutional treatment of the sick, Sir H. Kingsley Wood, Parliamentary Secretary to the Ministry of Health, said that the Government was heartily in favour of maintaining the present voluntary system and was opposed to a State Medical Service. The voluntary system was regarded as one of the best features of the present health system. A striking example of the way in which the working classes had rallied to the support of the voluntary hospital system was shown in the provinces, where the contributions had increased from £841,000 in 1920 to £1,341,000 in 1925. The demand for surgical treatment in hospital had grown tremendously.

THE Duke of Northumberland, as president of the Royal Institution, has nominated the following members of the medical profession as vice-presidents for the ensuing year: Sir James Crichton-Browne, Dr. J. Mitchell Bruce, Sir Almroth Wright, and Sir Arthur Keith.

UNDER an arrangement made between the Metropolitan Asylums Board and the London County Council beds are now available at Queen Mary's Hospital, Carshalton, and Highwood Hospital, Brentwood, for the accommodation of children under 16 years of age suffering from acute rheumatic fever, subacute rheumatism, the later stages of acute rheumatism, rheumatic chorea, and rheumatic carditis, including recurrent attacks. Medical practitioners who desire to recommend patients for admission should communicate with the School Medical Officer, County Hall, S.E.1, giving particulars of the cases. The children must be resident in the county of London.

THE proceedings of the Section of Physics of the first International Congress of Radiology held in London in 1925 are published in the April issue of the *British Journal of Radiology* (Röntgen Society section). Copies, price 15s. net, postage 6d., can be obtained from Mr. Geoffrey Pearce, hon. treasurer, Röntgen Society, 33, Newton Street, London, W.C.2.

THE new number (vol. v, No. 1) of the *Journal of Helminthology*, published by the Institute of Agricultural Parasitology, of the London School of Hygiene and Tropical Medicine, is adorned by the reproduction of a photograph of a group of research workers in helminthology, taken last December; in the centre is Professor Leiper, F.R.S., who is the editor of the *Journal*. The first and longest paper in this issue is on three new genera and some little known species of the nematode family, *Protostrongylidae*, Leiper, 1926, by Dr. T. W. M. Cameron. There is also a paper by Dr. Brade-Birks, lecturer in zoology at the Agricultural College, Wye, Kent, on some helminths parasitic on sheep and pigs in South-Eastern England. The supplement *Protozoology* has now reached its third number and affords further evidence of the diligence with which the department carries out its very special study.

THE International Labour Office has published five more pamphlets (Nos. 64 to 68) dealing with mouth and teeth (occupational affections); woollen manufacture; bleaching powder—chloride of lime; carbon dioxide—carbonic acid gas; and coal miners' diseases. They may be obtained from the London correspondent of the International Labour Office, 12, Victoria Street, S.W.1.

THERE were 16 cases of small-pox in Germany in 1924, 24 in 1925, and 7 in 1926. There were 746 cases of cerebro-spinal fever with 331 deaths in 1926, as compared with 750 in 1925. Three cases of typhus were notified in 1926.

THERE were 2,015 fatal cases of influenza in Holland in January as compared with 180 in December, 1926.

THE Spanish monthly journal, *Ars Medica* of Barcelona, offers a first prize of 2,000 pesetas (£72) and two second prizes of 500 pesetas (£18) each for the best medical work written in Spanish sent in by October 1st. The competition is open to medical practitioners of all nationalities.

THE P.L.M. Railway has instituted a through coach from Calais providing 1st and 2nd class seats to Milan via Lausanne, Montreux, Pallanza, and Stresa. This service will begin on May 15th, and will be in connexion with the 11 o'clock service from Victoria. A through Pullman car from Boulogne to Vichy will also run on and after May 16th in connexion with the 9 a.m. service from Victoria. It will reach Vichy at 10.50 p.m.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

INCOME TAX.

Appointment: Expense of Car.

"D. F. S." is allowed by the county council under which he holds an appointment 7d. a mile for the use of his car. He uses it for private purposes also, and finds that the council allowance, after paying registration, garage, and insurance expenses, leaves very little for running costs and depreciation. Can he claim any deduction for income tax purposes?

*** He will have to show that the additional costs were incurred wholly, exclusively, and necessarily in the performance of the duties of his office; in substance this would amount to proof that the council mileage allowance was insufficient, and frankly we feel that his success in that would be unlikely. He is not entitled to charge the whole of the specified expenses to professional, as distinct from private, use, seeing that they are equally necessary for either.

Liability to British Tax.

"J. M. J.," who is at present practising in the Far East, inquires whether a ship surgeon, whose wife and children live in the Channel Islands, would be liable for British income tax when serving in a British-owned shipping line.

*** He would be liable to tax—less the usual personal and other allowances—in respect of his salary and any other monetary earnings, but not in respect of income not arising from British sources.

Motor Car Allowance.

"MYLAW" inquires with regard to a car which he bought in 1925 and still owns. He has been advised that he can claim depreciation allowance while he retains it and the "obsolescence allowance" when he sells it. He has approached the local inspector of taxes accordingly, and has been informed that he "can claim either depreciation or the cost of renewals, but not both."

*** The inspector's statement is correct, but it does not cover the *obsolescence* allowance, which is a specific statutory allowance somewhat similar in effect to, but distinct from, the "cost of renewal" deduction. If "Mylaw" did not make it clear in his discussion with the inspector that it was the obsolescence allowance to which he referred it might be advisable to do so, and in either case to request him to make it clear whether his letter (quoted above) is intended to apply to both forms of allowance. If the inspector affirms that the depreciation allowance will exclude in due course the obsolescence allowance, we suggest that our correspondent should definitely claim the depreciation allowance. He might write to the Secretary, Inland Revenue, Somerset House, W.C.2, forwarding the correspondence and asking for a ruling.

LETTERS, NOTES, ETC.

SUMMER ON THE RIVIERA.

WINTER visitors to the Riviera are beginning to realize the mistake they make in rushing away from sunny southern France at the end of March. From April until the first days of July the heat is light, dry, and airy, fanned by breezes that sea and mountain interchange. To many the temperature, far from being unbearable, is pleasant, and from July to September there comes a settled spell of cloudless summer: unfailing sunshine and a pure blue sky. The supreme wealth of the Riviera lies in the sun, and it is this wonderful source of healing which has been invoked since the beginning of history. Taking Nice as a standard of the Riviera resorts, the following table of average temperatures (shade) may help to an understanding:

	Deg. F.		Deg. F.
May	61	August	73
June	68	September...	67
July	72		

An excellent service of "auto-cars" is run by the P.L.M. railway company from May to the end of September along the Maures and Estérel coasts from Marseilles to Nice. These services were inaugurated about two summers ago and proved an instant success. Further particulars about summer on the French Riviera can be obtained from the Federation of the Health Resorts of France, 19A, Tavistock Square, London, W.C.1, but the following suggestions as to places to stay at may be of use:

Le Lavandou (Var), between Hyères and St. Raphael, is a picturesque little fishing village with a fine sandy beach, situated opposite the islands of Port Cros and Le Levant. Hotels: Grand Hôtel de la Méditerranée, Hôtel d'Aiguebelle.

Le Canadel (Var), about seven miles to the east of Le Lavandou, a flower-growing centre; good sands; pine trees. Hotel: Grand Hôtel du Canadel.

Cavalaire-la-Croix (Var).—Beautifully situated in the bay of Cavalaire; splendid beach of fine sand sheltered by a marvellous pine-tree forest. A popular all-the-year-round resort. Hotels: Grand Hôtel; Hôtel de la Plage et des Bains.

Juan-les-Pins (A.M.)—One of the most attractive of the summer resorts, nestling among richly scented pines. It possesses a fine sandy beach and is extremely popular on account of its bathing facilities. Hotels: Grand Hôtel; Hôtel de l'Amirauté; Hôtel Windsor; Hôtel de la Pinède.

EARLY PARENTHOOD.

DR. W. W. FORSYTH (Darlington) writes: Letters like that by Dr. Gemmell (JOURNAL, May 7th, p. 862) make one wonder how an unsuspected pregnancy can tuck itself away when the average gossip will spot a five or six months' pregnancy with some certainty in "legitimate" cases. I was, however, called last year to a married woman of average mental acumen whom I had confined twice before. On arrival the pains she had complained of had subsided, the reason crying lustily in the bed, and the look of astonishment on the faces of mother and grandmother was amusing almost, neither of them having suspected the pregnancy. The comparative mildness of pains in these concealed or unsuspected labours makes one realize how great is the psychical element in labour. My own record for early parenthood occurred in a girl of 13, whose baby weighed 13 lb. less a few ounces, but then she had the outward frame of a buxom 20. The father was "unknown."

FOREIGN BODY IN RECTUM.

DR. D. OWEN WILLIAMS (Glandyfi) writes: The notes on foreign bodies in the rectum recall to my mind the case of a man who came to see me some years ago complaining of intense pain in the rectum. Upon examination I removed a circular bone over half an inch in length and about half an inch in diameter; one end was smooth, the other rather jagged; it was hollow in the centre, with a small part of one side removed, making a depression into the hollow. The bone seemed to be part of a mutton bone. After its removal he was at once relieved, and nothing further happened. It had been swallowed, probably in broth or stew.

HERPES AND VARICELLA.

DR. R. LYNN HEARD (Bexley, Kent) writes: In the JOURNAL of May 7th (p. 862) "G. B. P." suggests that the connexion between herpes zoster and varicella is still non-proven. If he will refer to my note of January 15th (p. 124) he will find that on different occasions when attending herpes zoster, with a susceptible child in the same house, I have prophesied that in a fortnight or so the child would develop chicken-pox, which forecast has been verified. He will also find under "chicken-pox" in Price's *Medicine* testimony to the same effect. In one instance a child, about 2 years old, developed chicken-pox, having been infected by its grandfather, who had had a severe attack of herpes zoster, contracted as the result of his visiting a friend similarly affected. For further example I would mention a case where a girl returned home from a visit to North Wales with well developed chicken-pox. She and her mother had been on holiday and had mixed with very few people. It was a puzzle to know where the infection arose until the mother said that she also had had some spots a couple of weeks previously. On examination the remains of a typical herpetic patch were found near the angle of the right scapula, which cleared the matter up at once. It was Dr. W. P. Le Feuvre, of Knysna, Cape Province, who, many years ago, called my attention to the connexion between the two diseases, and the recognition of this and of the *infectiousness* of herpes zoster has solved for me a number of problems.

NERVOUS INFLUENCES ON ENDOCRINE SECRETION.

DR. H. CLULOW NIXON (Bath) writes: A well developed Jewess, aged 28, married about three years, presented diffuse brawny induration amounting to a condition not far removed from stony hardness of the whole of the subcutaneous tissues of both upper and lower limbs. *X*-ray examination, including that of the sella turcica, revealed no abnormality. She had been sent to hospital as a case of "fibrositis" and during her stay she had steam baths and massage. Thyroid and pituitary gland extracts were given regularly. In six weeks a slight change for the better was recorded. She informed me that ever since marriage preventives to conception had been used, for financial reasons. I advised her to refrain from the further use of contraceptives, and in a letter that I received from her recently she states that a healthy boy was born a few months ago; that during her pregnancy improvement began; that the swelling in the legs disappeared, so that now they are much softer; and that the condition of the arms has much improved, but that some induration remains. The patient did not belong to the myxoedemic type, being both quick-witted and intelligent.

EPIDEMIC FURUNCULOSIS.

DR. CECIL E. REYNOLDS (Los Angeles) writes: I was much interested in the letter from "R. F." (Scotland) in your issue of January 1st (p. 46), referring to an epidemic of boils and carbuncles. Los Angeles passed through a small epidemic of these affections during October, November, and December, 1926. Five of my personal friends were affected; one, a man of 60, died. I developed four deep carbuncles in succession upon the face—the first local infection of any kind since the age of 14 years. I had no glycosuria, and have quite recovered. Dr. A. B. Cooke, who operated upon me, has remarked the sudden influx of carbuncles in his large general practice during these months of this past year, with some deaths. Casual inquiry has elicited similar observations from other surgeons. I have no theory as to cause; we have had one of the wettest and coldest seasons here that I have experienced in the past fifteen years. I may add that I do not drink city water, but spring water, and the stools are normal and free from parasites.

BENCE-JONES PROTEINURIA: CORRECTION.

DR. BEWLEY, whose name, we regret, was wrongly printed as "Bowley" (JOURNAL, May 7th, p. 838), points out that he is incorrectly reported (col. 2, lines 4 to 6) as saying that "if the precipitate was watched, it would be seen that it came down very rapidly, much sooner than albumin or globulin would be expected to come down . . ." What he actually stated was that "the precipitate is often slow in forming and may not appear for several seconds or longer."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *211*.

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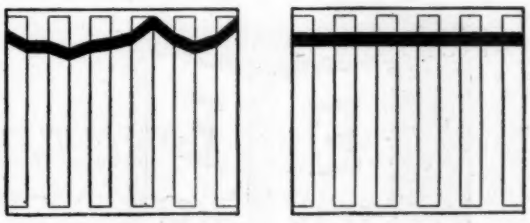

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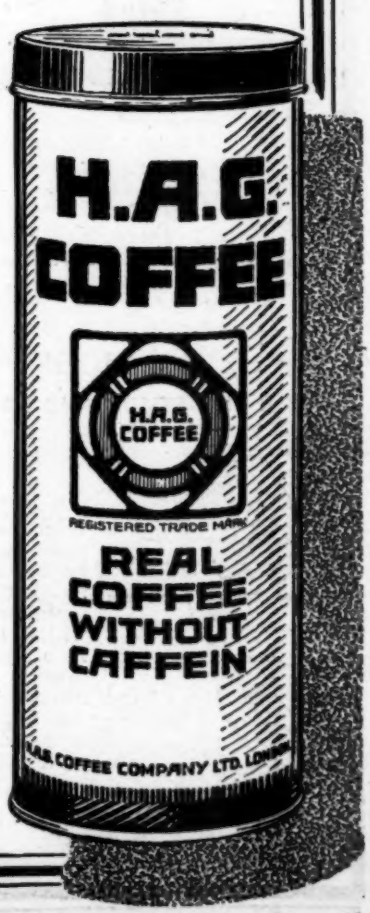

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